

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

{ STAMPEDSIXPENCE
{ UNSTAMPED..FIVEPENCE

UTILISATION OF COAL DUST. BARKER'S PATENTS.

THE LONDON PATENT COAL COMPANY (LIMITED) having arranged with the patentee for the exclusive right to these patents within the United Kingdom, desire to call the attention of coal owners, ironmasters, and others, to the value of the invention by which the waste and small coal can, by a simple and inexpensive process, be rendered available for all the ordinary uses of the coal from which it is derived.

A series of careful experiments have been made on the Monmouthshire Railway with fuel manufactured from the Risca Black Vein Coal (small) in locomotives working heavy mineral trains over severe gradients, by which it has been ascertained that increased duty was obtained from the fuel over the same coal. The results of these experiments are so satisfactory that Mr. Alex. Bassett, C.E., of Cardiff, has consented to act as the company's representative for granting licenses in South Wales, and will be happy to reply to all enquiries and give full explanation respecting the trials that have been made under his superintendence. Mr. Thomas D. Clare, of Birmingham, has also undertaken to represent the company in the Midland Counties, and large works are in course of erection in the Forest of Dean by the company's licensees there.

The company are prepared to grant licenses for the use of their patents, and from the success which has attended the manufacture at their own works, and the extraordinary popularity of the fuel for retail purposes amongst the lower classes, they believe that in every populous town a large and highly profitable trade may be carried on.

The cost of the ingredients used in the manufacture does not exceed 1s. per ton; they contain no pitch, tar, or other noxious substance, and the manufacture is not more expensive than ordinary brick-making.

The blocks are available for every purpose of ordinary coal, and stow in one-fourth less space (1 ton of fuel occupying 33 cubic feet only, as against 42 cubic feet for ordinary coal).

The cost of the machinery, &c., necessary for the production of 100 tons daily will not exceed £700.

Experiments have for some time past been in progress at Woolwich with the view to render petroleum and other analogous oils available for use under steam-boilers. The patentee's attention being directed to this fact, he found that the company's fuel, being porous, would rapidly absorb these oils, 1 ton of fuel taking up 50 gallons. This absorption does not in any way affect the solidity of the blocks, and it is believed they are the best medium for the purpose yet discovered, and that the fuel oil bricks will be an immense advantage to ocean steamers and vessels of war, on account of the vast saving in stowage and their steam-producing powers. The Admiralty have just granted permission for an official trial of the company's fuel to be made at Woolwich.

The value of the company's patents to all coalowners must be at once apparent. It is also of especial value to ironmasters; and, where the slack is used for coking purposes, the process may be adopted to advantage in roughly amalgamating the coal into blocks before placing it in the ovens. These blocks require no previous drying, and produce more coke and of better quality.

The company will be happy to receive specimens of coal dust at their North Fleet Works, which will be manufactured and reported upon free of charge, and they will send a competent person to manufacture a small quantity of fuel at any colliery where the experiments may be desired.

For further particulars respecting license, terms, &c., apply to the company's representatives in their respective districts, or to the Managing Director, 26, Martin's-lane, Cannon-street, E.C., London.

By order,
EDWIN W. GLOVER, Secretary.

FRANCE AND BELGIUM.

BARKER'S FUEL PATENTS.

For all information apply by letter to HAMMOND and SON, No. 26, Cornhill London.

MR. THOMAS SPARGO, STOCK AND SHARE DEALER, 224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C. TRANSACTS EVERY DESCRIPTION OF BUSINESS IN THE PURCHASE AND SALE OF SHARES IN BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, AND ALL OTHER BRITISH AND FOREIGN STOCK.

Mr. SPARGO has for sale shares in English mines paying regular dividends bi-monthly and quarterly, as also a number of shares in good progressive mines, some of which he with confidence specially recommends to the public as sound investments.

Mr. SPARGO gives every information as to position and prospects of all mining undertakings, upon application, either personally or by letter, and is enabled, through his long experience, aided by his monthly visits to Cornwall, Devon, and Wales, to obtain the most reliable information as to the numerous mines in those districts. He will at all times give the best advice as to investments in mines, and, if necessary, inspect them himself; as in all cases he wishes to be guided by the intrinsic value of the property, and, if required, will furnish a selected list of dividend and progressive companies.

Mr. SPARGO has published the following works, viz.:

Statistics and Observations upon the Mines of Cornwall, 1859—2s. 6d.
Ditto ditto ditto ditto 1860, price 2s. 6d.
Ditto ditto ditto ditto 1862, price 5s.
Ditto ditto ditto ditto 1864, price 5s.
Ditto ditto ditto ditto 1865, price 5s.

Physical, Geological, and Parish Map of Cornwall. Scale, three miles to an inch. Printed in three colours, showing distinctly the mining districts, the height of the hills, &c. Price 10s. 6d., on cloth and rollers.

Geological Maps of the various mining districts, showing the boundary line of each mine, with the lodes, cross-courses, and elvan courses traversing the same. Price 2s. 6d. each.

A Model, or Relief, Map of Cornwall (6 ft. 6 in. by 5 ft.), containing the names of every town and village, as also every characteristic point of the county. Price £5 5s.

Dividends received, calls paid, and all orders promptly negotiated. Commission 1s. per cent.

Mr. SPARGO has 25 years' experience of mining, 10 of which he was engaged in practical mining, and 15 years he has transacted business in mining shares and stock, at 224 and 225, Gresham House, Old Broad-street, City, E.C.

Mr. SPARGO'S Statistics for 1866 are now ready.

Banks: Consolidated Bank, Threadneedle-street.

GUIDE TO INVESTORS.—Mr. SPARGO'S "Guide to Investors" for the present month contains a Tabular Statement of Banking, Mining, and other Companies; City and Commercial Facts and Incidents; and a Price List of Shares in Banks, Canals, Railways, Bridges, and Finance Companies. It also contains Rate of Discount at Home and Abroad; together with necessary detailed information connected with the Stock and Share Markets, Mines, and Miscellaneous Companies. The City Article affords the most recent and authentic information concerning the stock, share, and produce markets. 224 and 225, Gresham House, Old Broad-street, London, E.C., June, 1867.

ACCIDENTS WILL HAPPEN!

Everyone should, therefore, provide against them!

£1000 in case of Death, or £50 per week while laid up by Injury, caused by ACCIDENT OF ANY KIND (riding, driving, hunting, shooting, fishing, &c.), may be secured by an Annual Payment of from £3 to £25, to the

RAILWAY PASSENGERS' ASSURANCE COMPANY.

The Oldest Established and Largest Company in the World Insuring against ACCIDENTS OF EVERY DESCRIPTION.

For particulars apply to the Clerks at any of the Railway Stations, to the Local Agents, or at the

OFFICES, 64, CORNHILL, and 10, REGENT STREET, LONDON.

WILLIAM J. VIAN, Sec.

NERVOUS DEBILITY: ITS CAUSE AND CURE.

Before seeking aid from the so-called remedies without medicine, read this valuable work on the Treatment and Cure of Nervous and Physical Debility. Loss of Appetite, Pains in the Back, Spentness, &c., with Plain Directions for Perfect Restoration to Health. Sent post free to any address, on receipt of two postage stamps. Letters of enquiry or details of case promptly answered.

Address, DR. SMITH, 8, Burton-crescent, London, W.C.

CURE YOURSELF BY THE PATENT SELF-ADJUSTING

CURATIVE AND ELECTRIC BELT.—Sufferers from nervous debility, painful dreams, &c., can now cure themselves by the only guaranteed remedy in Europe, protected by Her Majesty's great seal. Free for one stamp by H. JAMES Esq., Percy House, Bedford-square, London.

N.B.—Medicines and fees superseded.

CONSULT DR. HAMMOND (of the Lock Hospital, &c.).

No. 11, Charlotte-street, Bedford-square, London, W.C., in all those ailments which tend to embitter and shorten life, and especially those termed peculiar and confidential. At home, Nine to Two, and Six to Eight; Sundays, Ten to Twelve. The "Self-Curative Guide" post free, two stamps.

N.B.—Cases of recent infection cured in two days.

DR. WATSON (of the Lock Hospital), F.R.S., Member of the

College of Physicians and Surgeons, on the SELF-CURE OF NERVOUS and PHYSICAL DEBILITY, Loss of Spirits, Loss of Appetite, Timidity, Incapacity for Exertion, &c., with means for perfect restoration. Sent free for two stamps by Dr. WATSON, No. 1, South-crescent, Bedford-square, London. Consultations daily from 11 till 3, and 6 till 8; Sundays, 10 till 1.

Just published, post free for two stamps,

WONDERFUL MEDICAL DISCOVERY, demonstrating the true causes of Nervous, Mental, and Physical Debility, Loss of Spirits, Indigestion, Want of Energy, Premature Decline, with plain directions for perfect restoration to health and vigour, WITHOUT MEDICINE. Sent free on receipt of two stamps, by W. HILL, Esq., M.A., Berkeley House, South-crescent, Russell-square, London, W.C.

By post, from the author, 1s.; sealed ends, 20 stamps.

MANHOOD: A Medical Essay on the Cause and Cure of Pre-

mature Decline in Man, founded on the results of a successful practice of 30 years in the treatment of nervous and physical debility, sterility, impotency, effects of climate, and infection.

By J. L. CURTIS, M.D., 15, ALBEMARLE STREET, PICCADILLY.

REVIEWS OF THE WORK.

"MANHOOD.—We feel no hesitation in saying that there is no member of society by whom the book will not be found useful, whether such person hold the relation of a parent, preceptor, or clergyman."—*Sun Evening Paper.*

"Dr. Curtis has conferred a great boon by publishing this little work, in which is described the source of those diseases which produce decline in youth, or more frequently premature old age."—*Daily Telegraph, March 27, 1866.*

Also, from the same author, for 1s., or 16 stamps sealed.

DR. CURTIS'S MEDICAL GUIDE TO MARRIAGE: A Prac-

tical Treatise on its Physical and Personal Obligations. With rules for removing certain disqualifications which destroy the happiness of wedded life. Sold by ALLEN, 11, Ave Maria-lane; MANS, 39, Cornhill, London.

Consultations daily, from Ten to Three, at No. 15, Albemarle-street, Piccadilly, London, W.

Original Correspondence.

ROCK-BORING MACHINES.

SIR,—At the Exhibition of the Polytechnic Society, at Falmouth, next week, the interesting and important subject of rock-boring machines will be brought before the public in a prominent manner. The Society's able secretary (Dr. Clement Le Neve Foster), from his late official position of juror in mining and metallurgy at the Paris Exhibition, had great facilities afforded him of examining the various perforators exhibited there, and as he has since visited Prussia and Sweden, for the express purpose of obtaining additional information respecting two machines that have been at work there for a considerable time, and both of which are said to effect a great saving in cost and time, his information will be of unusual interest. His engagements in foreign exploration oblige him to quit Cornwall almost immediately after the Polytechnic Exhibition, so that it is very desirable that all who feel the importance of the subject, as regards our Cornish mines, should avail themselves of his information before he leaves. I understand that one of Mr. Döring's drilling-machines, with recent improvements, will be sent to the Polytechnic. His drilling-engines are in daily use at the zinc mines of the Vieille Montagne, and the rate of advance is said to be two-and-a-half times what it was by hand labour, and at less than two-thirds of the cost. I am also informed that a model of the American rock-boring machine, invented after many years of thought and labour, by an eminent American engineer, General Herman Haupt, will also be sent to the Polytechnic, and that he is expected to be present to explain it.

When at Paris, about two months since, I accompanied a friend of mine in his inspection of the various borers to be seen there from England, France, America, Prussia, and Sweden, and we were much interested in the survey. They are all modifications of Sommier's well-known perforator in the Mont Cenis Tunnel. That of French invention appeared cheap and compact, and has the peculiarity of using diamond points instead of a steel borer, and is worked by water, whereas the other machines are worked by steam or compressed air. If, in addition to the above-mentioned models, there should also be at the Polytechnic plans of Low's and Captain Beaumont's borers, and of the French diamond point, as I hope will be the case, why, as a friend of mine observed, it will be the first opportunity ever presented to English miners of studying rock perforators.

Does not the simple fact of so many machines representing as many nations, vying with each other at the Paris Exhibition, express a great want of the times, and a general and widely extended effort to supply it? Within the last few years the engineering thought of the country has been also turned in this direction—then let not Cornishmen be behindhand in applying that modification of the rock borer which, after careful deliberation, shall appear most applicable to the requirements of our Cornish mine levels. Might not the adventurers of one or two leading mines commence the trial by hiring one machine (say) of Döring, and another of General Haupt, and thereby practically test their respective merits side by side, and without any outlay for the plant?

A. L. F.

VENTILATION OF COLLIERIES.

THE LEMIELLE AND GUIBAL VENTILATING SYSTEMS.

SIR,—In passing the Washington Collieries a few days ago I was pleased to find that the masonry was within a day or two of completion for the reception of the Lemielle ventilator, which is being constructed for the owners of these mines, and I understand the machinery is nearly ready for erection. The boilers for driving the machinery are upon the ground, and it is expected that in a very short time the ventilator will be at work. This is a most interesting matter to the mining profession at large, inasmuch as it will tend to settle the vexed question of Furnace v. Machinery for ventilating purposes, and, judging by the dimensions of the masonry, the machine will be of very large size, and will, therefore, be a more decisive test than the experiments on the various small machines at work in this country at the present time.

A paper was recently read before the Institute of Mining Engineers, at Newcastle, written by M. Guibal, the patentee of a centrifugal ventilator, doing very good work in this country, entitled "A Comparison of the Merits of the Guibal and Lemielle Ventilators." It is generally understood that this paper has not been received with the favour that its title would lead us to expect, and the reason given is that it is not so much (in fact, not at all) a comparison of the two systems as an attempt to ridicule a pamphlet by Lemielle, recently distributed as an advertisement amongst members of the profession. That there were errors in the pamphlet, and, perhaps, important omissions, is not to be denied, but it does seem somewhat unfair that M. Guibal's paper should remain in its present state, or rather that it should be set forth as settling in any way the value of the two systems, when it is confessedly incomplete, by the promise, towards the end of the paper, that a further paper would be read, setting forth the advantages of the Guibal system, with experiments on recent constructions of that system. It is to be hoped that the remaining portion of the paper will soon be ready for reading, or, perhaps, it would have been better not to have read any of it until the whole was completed, or until the Washington machine had been set to work.

To Mr. Willis, the manager of these collieries, the profession will be indebted for this opportunity of comparing machine ventilation with that produced by furnace power, and also for the opportunities of comparison between the different machinery systems, and, if we may judge from his success hitherto in the successful use of machinery for other purposes, and that he had the advantage of being a pupil with Mr. Marley, than whom it is not too much to say there is not a mining engineer in the profession who so truly represents progressive scientific mining, we think the matter may safely rest until he has the Washington machine in operation.

MINER.

Durham, Aug. 14.

THE SELECT COMMITTEE ON MINES.

SIR,—Of the various subjects treated of in the report of the Select Committee on Mines, those which appear to attract especial attention are the employment of women and children, and the appointment of additional Inspectors, and upon these points I cannot but think that the conclusions of the committee are perfectly just. The women on the Wigan pit banks are quite as virtuous as those otherwise employed in the same district, if not considerably more virtuous; and as to decency, they are certainly more decent in their style of dress than three-fourths of the women one meets in the large towns where no colliery operations are carried on. The labour performed by women on the pit's bank is much of the same character as in the dusty yards, but less laborious, and also less laborious than that which women perform in brickfields. Is there anything so very disgusting in a pair of trousers that female immorality is inseparable from them? Or is it no consideration that many of those women are the widows or orphan daughters of those whose lives have been lost in the pit? These women would otherwise be in most cases thrown upon the parish, but under the present system they are enabled to earn a honest livelihood. Happily the committee—

"Have come to the conclusion that the allegations of either indecency or immorality were not established by the evidence; and, on the other hand, it was shown that many of the working miners, and the women themselves, were opposed to any such legislation, as being an uncalled for interference with the freedom of labour. The committee refer to the fact that in the coal fields of Durham and Northumberland women are no longer employed at the pit's mouth; and this leads them to the conclusion that the employment of women on pits banks does not require legislative prohibition or interference."

The miners have positively admitted that the real object of their efforts alleged to be for the improvement of the condition of the lads and women is simply to lessen the supply of labour about collieries, and thus increase the wages of men.

Then, again, as to the educational clauses, it is urged "that the educational clauses of the Mining Act in many, if not nearly all, districts are a dead letter, the monthly certificates of school attendance by boys between 10 and 12 years of age who cannot read and write not being required to be produced," a statement which is at once true, and shamefully untrue. It is true that the clause is seldom put into force, but this arises from the masters declining to be bothered with seeing that it is carried out, and, therefore, refuse to allow any boy under 12 to be employed at all. This is a ready and practical mode of getting over a difficulty, but it is a great hardship to many

who are thus deprived by the Act, for two years, of the result of the boy's labour. From 10 years old a miner's boy can earn quite enough to keep himself in food and clothing, and there can, therefore, be no reason why he should be kept idle till he is 12 years old, merely to suit the delegates and their dupes.

With regard to the number of Inspectors, it is extremely doubtful whether any increase in the present staff is at all necessary. When the Inspector is a competent man the work at present imposed upon him is not found to be excessive, but I admit some complaints have been made of inattention in certain districts. The late Mr. Mackworth always found time to perform the duties of his office most efficiently, so did Mr. John Hedley, and so at present do Mr. J. Dickinson, Mr. J. P. Baker, and Mr. Ralph Moore. It is probable that many of the others give equal satisfaction, but as I have never been brought into contact with them I express no opinion. Now, these are not mentioned as being the Inspectors who favour the masters' views—rather the reverse. Mr. Mackworth and Mr. Hedley were neither of them much liked by the masters, although their opinions were always respected. Mr. Baker, although appointed upon the recommendation of the masters, has from the day of his appointment given his sympathy to the men. Mr. Dickinson is quite loved in his district by the men, who, without exception, have the fullest confidence that he will exert himself to the utmost to get any cause of complaint removed; and Mr. Ralph Moore was appointed upon the recommendation of the men themselves, the secretary of the Miners' Union actually making a special journey to London to get Mr. Moore selected from the number of candidates, and as Mr. Moore was in every way suited for the office, the men's wishes were complied with. Now, if I say the nine hardest-worked Inspectors can perform their duties efficiently, why should the number be increased? The twelve cost at present about 10,000*l.* a year, and surely that is quite enough to pay, when no additional advantage would result from a greater outlay.

A BUTT.

ZANTE PETROLEUM—INTERESTING EXPERIMENTS.

SIR,—You were informed in a recent number of your valuable Journal that an experiment upon a small scale had been made by Dr. Versmann, to test the value of the Zante petroleum, and I saw you extracts from his report. The result of that initiatory experiment, as it were, proved so encouraging that the directors of the company deemed it desirable to submit their petroleum to a further and more complete analysis, and accordingly eight barrels of the petroleum were delivered to the same gentleman, to analyse and report as to its quality and value. This he has now done in a very lengthy and exhaustive report, now before me, from which I venture to make a few extracts, which may prove interesting to many of your readers. After describing the process by which the distillation was effected, and its result, and giving some calculations as to value, Dr. Versmann states that the Zante oil possesses special qualities which distinguish it from American and other petroleum. These special qualities are—

- 1.—The oil dissolves India-rubber with the greatest facility, and forms a solution in a much shorter time than any other solvent, which is of great importance to the manufacturer.
- 2.—The heaviest part of the distillate, which is, in fact, a strong solution of the resin, and this resin itself may be used as a waterproof varnish for stone, marble, wood, &c., imparting at the same time a light yellow colour.
- 3.—The resin, treated with nitric acid, is converted into picric acid—a substance largely used in dyeing silks, &c., yellow, and now chiefly manufactured from the yellow resin.
- 4.—The residue, from treating the oil with acid, has a characteristic aromatic smell of pelargonic acid—an organic compound not frequently met with in nature. I succeeded in separating this acid, which, when converted into pelargonic ether, is used as a perfume, and as an admixture to spirits to produce a peculiar whiskey smell. The manufacture of this article, even in small quantities, will be very remunerative; it fetches a high price, in consequence of the difficulty in obtaining it in sufficient quantity.

These indications will suffice to show that the oil, if properly treated, is capable of yielding considerably larger profits than can be obtained by selling it as petroleum spirit, petroleum oil, and lubricating oil alone; and I have, therefore, no hesitation in concluding my report by the expression of my firm belief, based upon a careful and exhaustive investigation, that your Zante petroleum is a superior quality, and that the proper working of it must be highly profitable.

I may add, for the benefit of those of your readers who may be interested in such matters, that samples of the petroleum in its different forms of distillation may be seen at the office of the company, No. 30 Cannon-street, City.

ZANTOIE.

THE TIN TRADE—A NEW SOURCE OF SUPPLY.

SIR,—Great expectations are at present entertained in New York that the time has arrived when the United States will not only become independent of all other countries for her supply of tin and tin-plate, but also that America will speedily become the chief tin-supplying country of the world. It is stated that in the State of Missouri the largest lode of tin in the world has been discovered, and as the report of the geologists and practical men who have examined the locality are highly favourable, intense excitement both in and out of the district has, not unnaturally, been the result. In the district it is very generally believed that "Cornwall's glory has departed," in consequence of the new discovery. One half of the population own tin mines, and the other half are trying to own some. Everybody has a piece of tin ore in his pocket, and there is scarcely a blacksmith's shop in the country where ladles and pans have not been coated with it. Blow-pipes protrude from pockets as frequently as "bowies" do in Arkansas. Several thousand acres of land has recently been entered in Madison and Iron counties, upon which the owners hope to find tin—lands which have heretofore been considered as almost worthless because of their hilly, rocky character and remoteness from river and railroad communication. These lands have been entered and purchased by persons from various parts of the State and elsewhere; and as the explorers have three experienced Cornish miners—Mr. R. W. Dunstan being amongst the number—to guide them, it is unlikely that anything of value will be overlooked. Hitherto the results have been most favourable. With regard to the "Tin Mountain," Professor H. M. Beauregard, a graduate of the Paris School of Mines, writes:—

"The mammoth lode is underlain by a close compact granite (rock of primitive formation). The stony matters are so firmly cemented together that the whole forms but one solid mass, without the slightest indication of joints or seams. The granite in which the 'tin' is embedded is found in the same block colours, from a bright green to a deep brown, and frequently in the same block these deposits, lying in a ravine running from north to south, with an inclination of 20° east, and extending for a distance of a quarter of a mile through the property, are classified as 'alluvial tin ore' or 'stream tin' in miners' parlance. The peroxide of tin occurs disseminated in the alluvium which covers the slope of the ravine; but it remains to be seen if the 'tinstone' is distributed in these deposits in sufficient quantities to pay for working. The vertical concentration of the mineral is remarkable for interlaced masses and veins. As is frequently the case, the particles are associated with other minerals, having gangues of felspar interspersed. I have made three comparative assays with specimens obtained from the surface of the lode. First, from a light to a dark green colour, showing in an unmistakable manner the presence of black tin, exhibiting the same characteristics as specimens from the tin mines of Saxony. Second, from some specimens of yellow and grey yellow streaks, containing a small quantity of tin; and if we take into consideration their position at the surface, they present very good indications. Third, the brown specimens contain, in a rich however, the covering of 'putty,' which is found very abundant, is of a rich quality, and if we consider that these assays were made in open air, that tin is the most oxidizable of metals, and that it is necessary to obtain a temperature of heat equal to 442° Fahrenheit in order to smelt it into ingots, the object in view, to establish the fact of the presence of tin, is reached."

The discovery of the Missouri tin is due to Dr. Albert C. Koch, in consequence of whose researches its existence has been known for the last 12 years, although until now no energetic steps have been taken. An investigating committee, including Dr. Koch, Professor Beauregard, Prof. Wilcox, of Genesee College, and others, has been formed. They found that the "pioneer lode" is beneath the surface, and about 18 in. in width, almost perpendicular. The next lode is found cropping out on a hill side, perhaps 100 ft. above the level of the valley. The hill is quite steep, and one of those mountain brooks which rise with rapidity, and in their descent remove from their position large rocks, had wasted across and through this deposit, exposing to view a diagonal "cut" to an average depth of 10 ft. The recent heavy rains had increased the exposure of the tinstone to such size and power that we could clearly see where specimens of the tinstone were drifted into the valley below, while the black sand (yielding 5 per cent. of tin) was found liberally strewn along the road in the valley, and along the bed of the stream in considerable quantities. Several very fine specimens of tinstone were found here, also asbestos, usually found in connection with tin. The ore of this lode or vein is from 70 to 80 ft., and considering the specimens obtained were merely surface ore, it promises to be a very rich deposit. Directly in line with this is the "Tin Mountain." The lode runs north and south 20° east, and the stream crosses it almost at a right angle. The distance along the stream from the eastern to the western edge of this perpendicular lode is 75 paces, and even allowing for the unevenness of the surface measured, the lode is upwards of 500 ft. wide, with a depth and length known to no mortal. "Champion lode" is made up of two distinct well-defined lodes, forming a junction

the stream, the eastern or main branch continuing in a line with the large lode north and south, 20° east, while the smaller one from the junction runs north and west. The two unite on the hill side, forming a lode between 200 and 400 ft. in width, literally a "tin mountain." Among the specimens obtained for analysis were some beautiful peroxide crystals of tin, very nearly resembling the German ore, and other specimens similar to but more pure than anything from the surface at the Cornwall mines. A mere rough analysis of a German sand-pot obtained 17 grains of black tin (11 grains of pure white tin from 1 lb. 4½ oz. of the tinstone taken indiscriminately), and he estimates that 20 per cent. of the tin was lost in extracting it. The result of the assays thus far made, little or no real tin should be expected, are very satisfactory, no conclusion arrived at is that there exists beyond question an almost inexhaustible supply of tin ore in Missouri, of a quality that will pay a very handsome profit for working it.—*Glasgow, Aug. 14.* J. R. T.

GOOD NEWS FOR COPPER PRODUCERS.

SIR.—A week or two since I drew attention in the Journal to an important invention for lining lead pipes and cisterns with tin, which I trust may be adopted, for the health of the community and the advantage of tin mining. Casting about to find a bit of good news for copper producers, I am pleased to notice the following paragraph:—

The Lords of the Admiralty have invited the principal shipbuilding firms in the United Kingdom to send in tenders for the construction of an armour-plated iron ship of about 2300 tons. This vessel is to be supplied with twin screws, and her bottom is to be sheathed with wood, which is to be coppered.—*Army and Navy Gazette.*

In following, from time to time, the unceasing endeavours of invention to solve the important problem of how to protect the bottoms of our iron ships, I have always had a sort of crude idea that eventually we should have to return to copper in some form or another, and it certainly does seem likely to be the case. If so, it must give a great impetus to the copper trade, for there cannot be a doubt that the use of iron ships, and consequent abandonment of coppered bottoms, has been one great source of injury to the copper producers.

NOTHING LIKE COPPER.

THE PROGRESS OF MINING—AS A SCIENCE, AND SOURCE OF COMMERCIAL WEALTH—No. X.

SIR.—Neither the discovery or the working of mines has been such a blind game of chance, such a leap in the dark, as many people are in the habit of describing it. The mineral resources, or rather the metallic lodes, of many countries are developed to a very visible degree, and in those districts where the lines of veins are most hidden by overburden there are generally numbers of objects that give a very good clue to their bearings. Owing to the peculiarity of construction of metallic lodes, with reference to the surrounding, or rather enclosing rocks, it is frequently easy to trace them for long distances where the metallic veins are highly crystallised and hard, the crests of the lodes frequently stand up like old castles along the surface of the land; possibly, in this case, the surrounding rock is worn down, and degraded by atmospheric influences, leaving the crystallised rock, generally of a quartzose character (in Cornwall called scovan lodes), towering high up over the surface of the surrounding ground. In other instances the surface of the ore veins are composed of gossan, ferruginous matter, and the oxides of the metals, and, consequently, are softer than the embedding rock in which the lodes are formed. In these examples of the outcroppings of the ore ground the surface of the veins are worn down by the action of the atmosphere, forming a peculiar trough-like hollow, with the sides rounded off, something like a flexible fabric, supported between two horizontal bearers, extending for miles across the country. This form of outcrop is well known to the miner, and in a new country he will readily detect the presence of such metalliciferous veins, and point out their lines over large areas of country. For example, in Flintshire the course of the great Talargoch Mine is discernible for an extent of several miles, so conspicuous is the line of its range that often its two sides or walls stand up, forming for some fathoms almost perpendicular walls, making the sides of the valley attending its back. Along and across the Halkin mountains the great lead veins are equally perceptible, and the Mold and Maes-y-Safn lines of ore ground are strongly marked at the surface. The Romans were exceedingly well skilled in the topography of mineral veins, and they so well detected the outcrops of the ore ground that a mine is seldom discovered that has not the trace of some previous handling by those celebrated old miners. I was somewhat surprised, in traversing some extensive mining regions in North Africa last year, to find the same traditional character of the celebrated people handed down on the sites of the old excavations or mining, and the remains of ancient architecture. The Romans were in everybody's mouth, and I thought what a strange thing it is that after 1800 or 2000 years the Romans should have so left their mark in that as well as our own country that the result of their operations should be so frequently alluded to; and it is no less remarkable that the modern populations have such faith in the precision and skill of the gifted old race, that they generally say, if the Romans have been here there is little fear but that we shall meet with a good body of metals, and have a good mine.

In Cornwall the lines of the metallic veins are not so much evidenced on the surface, but still the great metallic ranges, like those of Redruth and Camborne, Penzance and the Gwennap lodes, and the Gwennap lines, form a clear feature in the landscape. Now, it is true the lines of lodes are identified by the lines of engine-houses, and, perhaps, the anatomy of the Cornish veins is better understood than that of most other countries, as the mining districts are mostly crossed by splits from the sea, from either one coast or the other. In such cases every inch of ground has been searched with the minutest attention. It is, however, possible even with an adit traversing the country to pass bodies of ore. I remember when a lad, working underground, I was one of a party engaged in driving one of these great adits across the country, with a view to the laying open of new lodes and fresh ore ground. It was the Old Wheal Neptune adit; it had been driven up north-eastward a distance of nearly two miles from the sea. Having passed through Trenow lodes, Old Wheal Neptune lode, Great Wheal Neptune and Wheal Prattle lodes, we came upon the south face of Wheal Caroline lode; we crossed into it for 2 ft. or 3 ft., and saw no metal, when we diverted our course, following it along the north wall for 50 fms., and then crossed boldly through it, and, to our great delight, we found the north part of the lode, for 30 ft. wide, composed entirely of copper and gossan. In going east 30 fms., and cross-cutting the lode through, we found the same course of ore continued to this point, and that we had been travelling by its side, leaving a good mine, without knowing it, for fully 100 yards. This incident certainly appears to show that mining is a lottery, but, in fact, it only proves that we imperfectly carried out the system on which we were engaged, for if we had continued our cross-cut through the lode, without turning and following the lode, the discovery must have been made at first, as it was eventually, by the cross-cutting system, which was the design laid down for us in our then daily occupation. In the great clay-shale formation of Cardiganshire immense lodes crop up for fathoms in height above the surface, indicating the lines of the metallic lodes, such as at Esgrig-y-Mwyn where many hundreds of thousands of pounds worth of lead were dug out from only a little below the very outcrop.

Again, there is the famous Bronfloyd vein, in the old books called Bronfloyd. This vein manifests itself distinctly for a distance of six or seven miles, beginning westward at Bronfloyd, where it forms a good course of ore for 60 feet wide; it crosses the valley, and appears along the surface of Bronfloyd Hill side; it crosses over the hill of Coed Griffith, with ore coming up to the surface, but not wrought; it then goes down ½ mile to Willow Bank, where it forms great walls of gossan, like an old castle; from there it proceeds to the top of Lletynghen Hill, and from a partial trial yielded a large quantity of lead; thence it goes on another mile to Lowercumbach, where it produces a goodly quantity of ore, but all the intermediate ground, which will eventually form immensely rich and grand mines, is entirely untried; it thence goes to Bwlch Stellan, forming there masses of gossan, as large as houses, and I hear some discoveries of lead ore have recently been made there; thence it traverses a large expanse of peat ground, until it reaches Canidwr Mawr, the foot of the main Plynlimmon range, and ascends in whole ground the body of that immense mountain. It is impossible to form the slightest idea of the great amount of wealth contained in this untried lode; its great width of 60 feet, the strength of its crystallisation showing itself at the surface for many miles, and its profitable results at Bronfloyd, characterise it as one of the grandest developments of untried

mineral ground that I know of as lying exposed and unworked in that or any other mining country. M. F.

MINING IN SHROPSHIRE.

SIR.—Having, during the last few months, been engaged professionally among the lead and copper mines of Shropshire, I have been greatly struck with the immense importance and capability of the district, the merits of which are, strange to say, so little known to the general public. For the information of your readers, to whom, no doubt, it will be interesting, I propose giving you during the next few weeks some notes of my experience among those mines.

The metallic mining district of Shropshire is a hilly country, skirting the borders of Montgomeryshire, and, indeed, may not improperly be considered as naturally a portion of Wales, included accidentally in the county of Salop. The most striking feature of the district—whether regarded from a physical, a geological, or a mining point of view—is the remarkable range of the Stiperstones, which passes through the district with a direction something like N.N.E., S.S.W. On the west side of this range is the great and well-known lead district comprising the famous mines of Snailbeach, Roman Gravel, the Bog, Pennerley, Oven Pipe, &c., which are estimated to have returned about 5,000,000l. worth of lead. These mines are situated in the Silurian rocks which overlie the Stiperstones on the west. To the east of the Stiperstones we have, underlying them, the Cambrian Rocks of the Longmynd, which in the Habberley Valley—the valley which immediately succeeds to the Stiperstones ridge—are found to be composed of a dark sandstone. The sandstone of this valley has long been known to partake of a cuprifera nature, although it is only within the last year that its real importance has been practically ascertained; but within that period one of the richest copper mines—if not the very richest—in the kingdom has been opened out at Westcott, on the east side of the Habberley Valley, in the Cambrian Sandstone, and is now being worked on an extensive scale by the Shropshire Copper Company.

The SNAILBEACH MINE, which lies immediately to the west of the Stiperstones, is the northernmost mine in the lead district, as well as the oldest established, having been in continuous and profitable working for upwards of eighty years. Having been hitherto worked by a private partnership, which smelts its own lead, nothing is publicly known as to its returns or profits—but it is generally understood that its average returns are about 250 tons of lead ore per month, raised almost entirely from one lode, which is now worked to a depth considerably below 200 fathoms. The Snailbeach Mine is on the lands of the Marquis of Bath and the Earl of Tankerville.

Immediately adjoining Snailbeach, on the south-west and south, are the lands of the CENTRAL SNAILBEACH COMPANY. The old workings belonging to this company are in the valley, on the direction of the Snailbeach main vein, the rich courses of ore connected with which must ultimately be intersected here, although the accomplishment of this task has been a matter of greater time and capital than could have been originally expected. Besides these old workings, the Central Company have succeeded in acquiring, on terms so advantageous that they may be considered almost nominal, an extensive piece of mineral ground adjoining Snailbeach on the south, and containing all the parallel lodes adjacent to that mine. This company having recently found it necessary to strengthen its position by increasing its capital, the result has been temporarily to depress its shares. No one, however, who knows anything of the district, and the relations of this mine and Great Snailbeach, will be for a moment shaken in their faith by such temporary causes. Anyone who is inclined to be so should bear in mind that the Minera Company raised three capitals before they succeeded in achieving the object sought, which was very similar in every respect to the work to be accomplished at Central Snailbeach. South of Central Snailbeach Mine, and on the same parallel of ground as compared with the Stiperstones, we come to the NEW VENTURE and OVEN PIPE MINES—the former being close under the Stiperstones, and the latter in the valley. Some years ago a fine bunch of lead ore was found near the surface at New Venture, which gave profitable returns, amounting to about 40,000l.; but, strange to say, the mine has not since been vigorously prosecuted, and is now unworked, although a large value is placed upon it. The Oven Pipe Mine is one of the oldest in the district, having been worked by means of the famous boat level some generations back. It is now worked by one individual—Mr. Heighway Jones; and on a comparatively small scale of working is yielding a profit of from 400l. to 600l. per month. J. R. R. KEANE.

Bridgewater Chambers, Brown-street, Manchester.

HISTORY OF MINING—No. VIII.

SIR.—In my last letter I pointed out various fields of mineral treasure in Western and Northern Europe, and will now, with your permission, resume the subject. The first country to which I referred was Spain, as still rich in silver, although she has been the great producer of that metal from a remote antiquity, until her possessions in Mexico enabled her to add to her own treasures from that country, and to the silver of the world. The testimony of the ancients to the mineral riches of Spain is various and decisive. Dr. Englehardt, in a paper recently published, observed:—

"Spain, as is well known, was colonised by the Phœnicians, and it is, therefore, probable that they worked the first mines in the country. These mines became soon, if we may trust the annals of the old historians, the most productive of ancient times."

Diodorus testifies to the truth of Englehardt's observations thus:—
"The mountains (of Spain) were covered with thick woods, which being set on fire by shepherds, or by lightning, burned for a long time. This caused the mineral to melt, in consequence whereof the pure silver ran down into the valleys like a stream of water."

Pliny, referring to the Iberian peninsula, remarks:—

"Some have related that the Asturias, Galicia, and Lusitania (Portugal) furnished large quantities of gold annually; but the Asturias supplied the most, nor in any part (any other) of the world during so many ages has so great a quantity been obtained. In every species of gold there is some silver, in some one-tenth, in others one-ninth, and in others, again, one-eighth."

The same author, in another passage says:—

"Silver is found in all the Roman provinces, but the best in Spain, and that in barren and wild soil, even in the mountains; and whenever one mine is found another is discovered not far from it."

The silver mines near the city of New Carthage yielded to the Romans an average daily product of 24,000 drachms, and employed constantly an average number of men amounting to 40,000. The working of the ancient Spanish mines is associated historically with one of the saddest facts, and one most fruitful in events—the African slave trade. At first the conquerors employed the Iberian people to work the mines, and treated them in the same way as they had treated the ancient Britons in Cardiganshire and elsewhere in Wales, with brutal severity and oppression. The ancient Spaniards were, by this tyranny reduced in numbers to such a degree that their taskmasters sought for a stronger and more toil-enduring people, and brought them from Africa. Strabo relates how a certain adventurer, who possessed a fortified place in Sicily, first organised a company of pirates, and was quickly followed by other men of like character and enterprise, who bought, or reduced to slavery, the unfortunate beings, whom they sold to the Romans and others.

According to the testimony of this writer, silver was worked in England at a very early period. Dr. Englehardt observes:—

"It is uncertain whether England produced any considerable quantity of gold in very ancient times. The fact that the Romans, when they first came to this country found its inhabitants in possession of gold and coin seems to indicate that at least some gold was found there."

Gaul, on the contrary, must have yielded far more of the noble metals in ancient times, since Julius Cæsar found the natives possessed of great wealth, and that country in the time of Augustus paid considerable quantities of gold, and especially silver, into the Roman Treasury. Indeed it is obvious that the vast treasure in metals, and especially in the precious metals, possessed by the Romans was drained from Western Europe, both by sweeping away what was in circulation and by compelling the natives of those countries, as in Spain, Portugal, and Britain, to work as slaves in the mines. The decline of the Roman power was followed by a decrease in mining, and consequently in the amount of metallic treasures possessed by men. The people who wrought in the mines, rendering only a forced labour, soon rebelled, and the works were permitted to fall into ruin. The age immediately following the fall of Rome produced but little gold, but it is difficult to predicate anything of quantities or localities, so little information do we possess on mining matters from the fall of Rome to the eighteenth century. During the middle ages Western Europe produced gold and silver, as well as other valuable metals. Spain yielded large quantities of both gold and silver to its Arabian conquerors, for Cardonne informs us that the Arabian Viceroy, Abdonabrahma, sent to the Caliph 400 lbs. weight of virgin gold and 21,000 lbs. weight of silver.

The mining for gold and silver which existed in Spain was a great source of wealth to the Arabs. They employed a large number of workmen, and extracted great quantities of those metals."

It may be remarked, *en passant*, that the chief mines of the Arabs were in the province of Jaen, where even now 500 shafts may be seen in the hills.

The British Isles yielded more mineral wealth at that period than is generally allowed by historians, or supposed by the present inhabitants. Dr. Englehardt says:—

"In Scotland during the middle ages gold was obtained by washing the sand of several rivers, but we have no historical evidence, as far as I am informed, that the quantity of gold produced by Great Britain and Ireland was large."

During the reign of Elizabeth, however, a great portion of the gold coinage was made from metal raised in the Leadhill district, Scotland, in the vicinity of the Cumberland lakes, in the county of Wicklow, Ireland, and in smaller amounts obtained in other parts of the British Isles. But from the time when the plunder was effected by the Romans to the discovery of America, gold and silver were scarce in Great Britain and France, so that the annual production in both countries must have been very small, and the abrasion, and loss in other forms, very great. But during a portion of the middle ages France added greatly to the stock of the precious metals extant in Europe. In Ireland gold was found in much larger quantities previous to the Anglo-Norman invasion than after that event. The Danish invasion, however, interrupted the civilisation of Ireland in this as in every other respect, the invaders being utterly barbarous.

From the facts which I have adduced in this and previous letters as to what Western Europe has been in reference to mining from the period the Phœnicians worked the silver mines of the Iberian peninsula, extracted gold in Ireland, and traded with the Cornwall Britons for tin, to the time in which we now live, and "work the reluctant earth," it is reasonable to infer that this part of the world is richer in this description of treasure than is generally supposed, and that modern enterprise should be directed to fresh and wide discovery in all the metals and other mining products which Western Europe has produced. Nothing else could give so powerful an impulse to our wealth and industry as a nation. Mining is the chief fountain from which commerce springs, and may be suitably termed the parent of trade, for without metals neither the arts, manufactures, nor agriculture could advance one step, or maintain their present position, but civilisation would recede in every form.

Gresham House, London.

THOMAS SPARGO.

THE MINERAL RIGHTS ASSOCIATION.

SIR.—The resolution that was unanimously agreed to by the shareholders of the Mineral Rights Association, at their last meeting, that the company should be voluntarily wound-up, having this day been confirmed unanimously, and liquidators appointed to carry out the same, I feel desirous to mention, through the medium of your extensively circulated Journal, that it is not my intention to take a seat at the board of the Mining Association (Limited), a company that it is proposed to establish on the basis of and with the same objects as those of the late Mineral Rights Association, as I find attention to the duties of a director not only a source of great anxiety, but interfering most seriously with my many other business engagements. I am requested by my late colleagues, Mr. C. J. Bunyon and Captain Watson, R.N., to state that for similar reasons they do not propose to join the direction of the proposed Mining Association.

We consider it our duty towards absent shareholders of the late company to thus publicly state the position we intend to take with reference to the proposed "Mining Association." We are, however, acting in this matter in perfect good feeling, and wish it every success.—*London, Aug. 15.* PARKE PITTAR.

CHIVERTON MOOR MINE—ITS PROSPECTS.

SIR.—It is interesting to observe the attempts that have been made of late to depreciate this fine property, with the object of buying the shares after they have been knocked down to a price far below that which the position and prospects justify. The present moment affords ample opportunity of seeing that such attempts have been but too successfully carried out. All kinds of sinister rumours are circulated; for the last week or two, for example, it has been studiously "noised" that a very heavy call would be required at the meeting, whereas it is a fact that a very small call will be required to carry on the mine in full operation, and place the accounts in a perfectly healthy position. When it was stated the water had been in the mine, from an accident, for a week or more, which would cause much delay, and affect the returns, &c. It turns out that it was but a delay of a few hours, during the ordinary operation of putting in a plunger. Now, these and a hundred other groundless reports do not reflect much credit on their originators, but, while they seriously concern those who may be jobbing in the shares, can be viewed with complacency by the bona fide shareholders, who have their shares in their own names, and intend to keep them until their property is as valuable as West Chiverton, or still more so. The majority of these know too well the great prospective value of their property to be frightened out of their shares; and anyone who knows the mine, and appreciates its splendid position with reference to its rich neighbour, can easily see from the agent's reports that, "through evil and good report," a steady, and by no means slow, progress is being made towards that point of triumph which it is well known must inevitably be reached, and cannot be far distant. To those among the present (or intending) shareholders who have not yet seen the sett, I say, take advantage of this lovely weather and the touring season to make a trip westward, and make a point of visiting Chiverton Moor. Those who do so will at once see and appreciate the immense value of the position of the property, and will never regret their trouble, and will hold "for the mine," and shut their eyes and ears to all evil reports till the time arrives for opening their purses to receive their dividends. Let those who are wise as to go, take a walk over West Chiverton, for it is a sight to see, and helps to show what may be looked for at the adjoining property of Chiverton Moor.

ONE WHO HAS SEEN IT.

IS WELSH MINING A GENUINE SPECULATION?

SIR.—I notice weekly reports showing that extraordinary profits are to be made from working Welsh mines. This caused me to analyse them as a test. I believe no man ever worked harder than "M. F." to keep the Welsh flag unfurled and openly exposed to the breeze; but, with all his hard struggling, it is for ever inclined to entwine round its staff, as though it wanted to hide its coat of arms. As a forlorn hope, Welsh miners try to claim six mines as paying dividends. But I say two of them are only to be compared to the figure of nine wanting the tail. Then there are four left—Cwm Erfin, Cwmystwith, East Darren, and Lisburne, paying, as a whole, per share about 86l. per year; that is if a person holds one share in each mine, and these shares now sell at no price. All the dividend mines in Wales do not pay 30,000l. a year—not enough to pay the directors, brokers, and agents for all the mines worked. Then there are over a hundred mines making calls. Someone showed, a few months since, the Cornish shareholders pay 8l. in calls to get 1l. dividend. In that case I think Welsh mines must pay 4l. to get back 1l. This is not a very encouraging lottery. Can any far-seeing man come to the conclusion that it is a paying investment? If so, let him try his hand at it.

N.B.—Having surveyed Welsh slate quarries for over fifty years, I beg to say that Mr. J. Kellow is a practical quarry worker. His letters in the Journal on working slate quarries are genuine, and to the point. W. ENNOR.

ST. JOHN DEL REY GOLD MINING COMPANY,

MORRO VELHO, BRAZIL.

The annual holiday kindly granted by the directors of the company was held on St. John's Day, June 24, and passed off to the entire satisfaction of every one. A committee, consisting of officers and men, had been formed some time before, to arrange sports for the day's amusement, all of whom entered heartily into the work they had undertaken. Thanks to the kindness of Mr. Gordon, the superintendent, who placed at the disposal of the committee a sufficient force, the camp above the store was cleared and enclosed, and a number of tents erected, where every requisite in the way of refreshments could be obtained. The proceedings commenced at 9 A.M., with a salute of 19 guns, during the firing of which the band, attached to the establishment assembled at the Casa Grande, and marched in procession to the ground, when the sports commenced, and were sustained without intermission till 5 P.M. The greatest good humour prevailed on all sides, and the competition for the various prizes was maintained with considerable interest and friendly rivalry. The concourse of Europeans with their wives and children, Brazilians and strangers, was very large, all dressed in holiday costume, and that, coupled with the magnificent weather we had, contributed to render the day one of unalloyed pleasure to all. The particulars of the sports were as follows:—Pole leaping, 1st prize, John Tyack, jun., 6 ft. 6 in.; 2d, T. Sanson, jun., 6 ft. 3 in.; 3d, R. Walker, 6 ft.—High leaping, 1st prize, J. Tyack, jun., 4 ft. 6 in.; 2d, G. Moyle, 4 ft. 4 in.; 3d, T. Rafferty, 4 ft. 1 in.—Hitch and Kick, 1st prize, R. Hocking, 7 ft.; 2d, J. Lagor, 6 ft. 9 in.; 3d, J. Walker, 6 ft. 7 in.—Putting the stone, 1st prize, J. Bastian, 24 ft. 9 in.; 2d, J. Moyle, 24 ft.; 3d, J. Thomas, 23 ft. 7 in.; 4th, E. Warrington, 23 ft.—Running leap, 1st prize, J. Tyack, 14 ft. 3 in.; 2d, T. Rafferty, 14 ft. 2 in.—Hop, step, and leap, 1st prize, W. Weir, 24 ft. 1 in.; standing, 2d, T. Rafferty, 22 ft. 5½ in.

The next feature in the programme was a performance of the "Congado dance," one of the native African dances, by a troupe of the blacks of the establishment, proved one of the most attractive sights in the day's entertainment, being followed in its turn by a Brazilian dance, called the May Pole or "Peta Danca," consisting of 18 or 20 very tastefully dressed youths, whose performance, of about an hour's duration, very much resembled an English country dance.

Nearly all the remainder of the day was devoted to the races and the climbing of the greasy pole for a prize of 15 milreis, which, notwithstanding the laudible attempts of many Brazilians and blacks, persistently kept its position at the top of the pole, and ultimately was withdrawn, and appropriated as prizes for the races, which were so arranged that people of all descriptions had an opportunity of competing. First came those of the English, including hurdle, flat, sack, blindfolded, and backwards. The hurdle race being run in heats, was the mor

excellent and keenly contested; the whole, nevertheless, was kept up with great spirit. The Brazilians in their turn did full justice to the liberality of Mr. Gordon in competing for the prizes he kindly offered; after which the blacks entered an appearance for a series of races, the prizes consisting of dresses, shawls, caps, fancy pipes, &c., the competitors, including men, boys, women, and girls, who were greatly pleased, and not unjustly proud of their part in the day's demonstration, as their running was generally considered swifter than any that had preceded. List of English races:—Flat race, 1st prize, J. Tyack; 2d, J. Billek; 3d, P. Trebblock. Hurdle race, 1st prize, J. Tyack; 2d, T. Hafferty; 3d, G. Moyle. Race backwards, 1st prize, W. Weir; 2d, J. M. A. Gordon; 3d, J. Reynolds. Race blindfolded, 1st prize, W. Trenwith, jun.; 2d, F. Trebblock. Sack race, 1st prize, S. Tyack; 2d, W. Trenwith, jun.; 3d, T. Andrew. Donkey race, 1st prize, T. Robins; 2d, J. Paul; 3d, R. C. Bawden.

To vary the attractions of the day, "Aunt Sally" was erected at a convenient corner of the campo, and although the prize was only three copper pennies it was vigorously contended for until her exchequer was exhausted. The entertainment of the evening was held in the store, which had been previously cleared and decorated, commencing at half-past six with a dance by the free bachelors, and followed by an exhibition of "Prestidigitation," by Senor André Felipe Talon, who sustained the interest of those present for about an hour, exhibiting some marvellous feats of sleight of hand, the performance of which was greeted with a round of well-merited applause. On the termination of which an abundant supply of tea and coffee and cake was handed round, during which time the Brazilian band favoured the company with some excellent music. When the wants of the evening were satisfied, a vocal and instrumental concert, jointly undertaken by several of the English employees and the Brazilian band of the village of Congonhas—all of whom acquitted themselves with great credit—took place. But the proceeding of the day could not be brought to a close more appropriately than by giving vent to our feelings as was done by the whole of the company joining in "God save the Queen."

A magnificent display of fireworks was then exhibited under the superintendence of Senor Padre Francisco Petralha, lasting about half-an-hour, at the conclusion of which the company dispersed, much gratified with the festa of 1867. It is a pleasant duty to record that on this occasion no irregularity or excess on the part of anyone concerned was observed. It should not be lost sight of that owing to the foresight of Mr. Gordon and the co-operation of his staff, the works of the company still continued their productive results, under the charge of a small force.

FOREIGN MINING AND METALLURGY.

The annexed statement shows the movement of coal over the old concessions of the Northern of France Railway during the ten years ending 1866. In consequence of the development which coal mining has acquired in the Pas-de-Calais, and also in consequence of the increased deliveries from Belgium, this branch of the company's business has largely extended during the ten years:—

Year.	Tons conveyed.	Receipts.
1857	1,032,315	£285,226
1858	1,335,136	365,184
1859	1,875,343	508,850
1860	1,875,343	410,243
1861	1,907,832	387,129
1862	2,064,058	376,328
1863	2,157,272	379,409
1864	2,577,960	459,295
1865	2,984,751	541,688
1866	3,331,239	569,694

It will be seen that the tonnage of coal carried has made an incessant and unchecked progress during the ten years, but that from this source there have been some fluctuations; in fact, they have scarcely doubled during the decade, while the coal movement increased more than three-fold. It appears that in the two months ending July 10 this year the Northern of France Railway ordered 22 tons of Vignoles rails, at 71. 8s. per ton (in warehouse at the works), from M. Hamoir, of Maubeuge; 600 tons of Bessemer steel rails, at 141. 3s. 4d. per ton (delivered at La Chapelle), from the Terre-Noire Works; and 70 tons of switch bolts, at 137. 15s. 3d. per ton, to be delivered at Valenciennes, and ordered from M. Nankale, of St. Vaast. The Northern of France Railway Company has ordered 300 tons of switch bolts from the house of Wendel; the terms have not transpired. The production of Bessemer steel in France has acquired a remarkable development of late years. In 1863 only three establishments devoted themselves to the production of this article, viz., the Terre-Noire Company, the Imphy St. Seurin Company, and the house of Petin, Gaudet, and Co. The whole production of the year amounted to only 1856 tons. In 1864 the houses of Menans and De Dietrich increased the number of establishments producing the article, and the total production of the year rose to 6750 tons. Finally, in 1866, the Châtillon and Commentry Company applied itself to the production of Bessemer steel; and the make of the six establishments which have thus become producers amounted last year to 10,790 tons. It is expected that the production will this year experience a considerable further increase. In consequence of the numerous and important orders which have been given out this year for Bessemer steel rails by the various French railway companies. Some orders continue to present themselves on the French markets, but the general condition of French siderurgical industry continues indifferent. In the Haute-Marne prices are fairly supported, and the demand for the year has been 71. 8s. per ton; mixed ditto, 81. 8s. per ton; and iron from charcoal-made pig, 81. 8s. per ton. On the Paris market coke-made iron has sold at 71. 4s. Coke-made pig made in the Haute-Marne has been sold this week at 37. 1s. 8d. per ton on trucks, at St. Dizier. In the Moselle group the stock of pig is increasing; no new affairs have been concluded, and attention is devoted to the execution of old contracts. The production of merchants' iron in this group has been reduced more than 10 per cent.; this reduction has had, however, no influence on prices, which continue to droop. The state of coal-mining industry in the Pas-de-Calais continues favourable, and, notwithstanding the period of the year at which we have arrived, prices are firmly maintained. The crop of beetroot promises well, and this is one of the principal causes of the steady observance in quotations. The sugar manufacturers had to pay dearly last year for their supplies of coal, and it is to guard against this eventually this year that they are now forwarding their orders. In consequence of this state of things, deliveries are active as well by water as by land, and the approaching opening of the section from Bassée to Loos, on the Bethune and Lille Railway, will only increase this activity by bringing into more direct and rapid communication the centres of production and the centres of consumption. Coke on the St. Dizier market is offered at the following rates:—Washed coke, Agra, 17. 8s. 10d.; Escouffaux, 17. 8s.; Denain, 17. 6s. 9d.; and Donal, 17. 6s. 9d. per ton. Washed coke from these sources presents a reduction of 2s. 6d. per ton on these prices, which are applicable to deliveries by railway; for deliveries by water there is also a reduction of about 2s. 6d. per ton on each of these qualities. The Rive-de-Gier Collieries Company will pay, Oct. 16, a dividend of 3s. 3d. per share on account of the first half of 1866. The Mourcin Colliery Company commenced the payment of Thursday (Aug. 15) of a dividend of 31. 4s. per share as the distribution for the past exercise. Meetings are announced as follows:—Monza Mines Company, Aug. 31, at Paris; and Longterre Ferrand Colliery Company, Sept. 12, at Elouges.

It appears that the net profits realised last year by the Montigny-sur-Sambre Blast-Furnaces and Rolling Mills Company amounted to 6607, of which 4807 was attributed to the council of administration and the committee of surveillance. The actual balance of profit available for dividend was, then, only 4807. A sum of 7987 was applied last year to various reserves, capital, and 1881 was also applied to the reserve fund, which, amounted at the close of 1866 to 98907. The company expended during the exercise 1866-67 a sum of 85557, for various operations in connection with the extension and transformation of works. However this may be, the general result of last year's operations was very insignificant; it must be attributed to the difficulties against which Belgian siderurgical industry has been long struggling, such as the high price of combustible, and foreign competition. Thus, in 1866 iron was 25 per cent. cheaper than in 1855, whilst the price of coal had advanced 10 per cent., comparing the two years together. The Montigny-sur-Sambre Company has 120,000 cwt. of coal in stock, and has a consolidated debt of 52,5207, in obligations, and a floating debt of 69,7737. The shares, which are of the nominal value of 20l. each, are quoted on the Brussels bourse at 31. 16s. each. The Ougrée Ironworks Company is now paying a dividend of 16s. per share. Meetings are announced as follows:—Val-Benoit Iron Manufacturing Company, Aug. 27, at the Val-Benoit; Dutch Company, for the working of Gasworks in Spain, Aug. 28, at Rotterdam; Augsburg Company, for the construction of Machinery, Aug. 28, at Augsburg.

An adjudication has just taken place at La Haye of two lots of rails, of 5000 tons each, and a lot of bolts (100 tons). The rails were required for the Dutch State Railways. The following tenders were delivered:—Cockerill Company, Seraing, one lot at 444,032 fl., or 88-80 fl. per ton; and the other lot at 443,708 fl., or 88-74 fl. per ton. MM. De Dorlodot Frères, Acoz, one lot at 467,775 fl., or 93-55 fl. per ton; and the other lot at 420,500 fl., or 84-10 fl. per ton. Messrs. Hopkins, Gilkes, and Co., Middlesbrough, one lot at 405,699 fl., or 81-14 fl. per ton; and the other at 404,999 fl., or 80-99 fl. per ton. Tees side Ironworks, Middlesbrough, one lot at 405,000 fl., or 81-20 fl. per ton; and the other at 404,999 fl., or 80-99 fl. per ton. Messrs. Bolekow, Vaughan, and Co. (Limited), Middlesbrough, one lot at 415,500 fl., or 82-70 fl. per ton; and the other lot at the same terms. Messrs. Guest and Co., London, the two lots at 377,600 fl., or 75-76 fl. per ton. The Ebbw Vale Company, London, the second lot at 412,394 fl., or 82-47 fl. per ton. MM. De Wendel, of Hayange, the second lot at 471,991 fl., or 94-39 fl. per ton. The first lot of rails was let to Messrs. Hopkins, Gilkes, and Co. As regards the second lot, it will have been observed that tenders were made on the same terms by Messrs. Hopkins, Gilkes, and Co., and the Tees side Ironworks Company. The contract for the bolts was let to MM. Doppeler Frères, Maestricht. It is stated that several glass-making establishments have entered upon contracts with Ruhr Collieries, notwithstanding the fall which has taken place in Belgian coal. It is the quality of the Ruhr coal which has led to the conclusion of these transactions. At the same time, it should be understood that the glassworks are still buying considerable quantities of coal in the Mons basin, while those glassworks which receive Ruhr coal employ one-third from Mons, one-third from Charleroi, and one-third from Germany. Upon the whole, it may be said that no change has occurred in the Belgian coal trade; the stock continues important, and the extraction is very restricted; no variation of importance is expected to occur in prices during the dead season. Belgian metallurgical industry presents no improvement. Several establishments want orders, and prices are much depreciated; plates alone give rise to some transactions.

The Havre copper market has been feeble, and the article elsewhere gives rise to very little movement; the sale prices vary from 697. 8s. to 697. 10s. per ton for disposable, and to be delivered. Affairs have been quiet, and prices have been almost nominal at Paris; English bars made 807; Lake Superior, 807; rough Chilean, 707 to 707. 12s.; and Corocoro mineral, 707. 10s. per ton. At Marseilles some affairs of little importance are reported. Taka mining 767; Spanish 747; refined Chilean and Peruvian, 807; refined red copper for sheathing, 887; yellow ditto, 827 per ton. On the Berlin and Cologne markets the demand has been insignificant. At Hamburg the article remains neglected, although prices are the turn in favour of purchasers. The Spanish Government has been authorised to alienate the important copper mines

of Rio Tinto. There has been less animation of late upon the Dutch markets. At Amsterdam and Rotterdam, however, Banca has maintained itself tolerably firm at 52 3/4 fls., and Billiton at 52 fls. Attention begins to be directed to the approaching public sale of the Dutch Society of Commerce; and in this regard it is interesting to note the present state of the stock, and the total deliveries of Banca tin on the Dutch market during the first seven months of the last three years. Statistics collected on this head present the following results:—

	1865.	1866.	1867.
January	4,230	11,930	10,950
February	4,287	7,959	6,193
March	9,640	17,236	6,519
April	5,650	24,192	12,568
May	3,890	22,739	9,884
June	5,910	10,579	6,400
July	27,297	4,575	9,367

Total 61,604 99,230 62,081
The stock on schedules July 31, 1867, was 138,605 ingots, as compared with 109,375 ingots, July 31, 1866, and 30,700 ingots July 31, 1865. The unsold stock of the Society of Commerce, July 31, 1867, was 58,369 ingots, as compared with 117,449 ingots, July 31, 1866, and 26,460 ingots, July 31, 1865. The quantity under sale and now expected by the Society of Commerce amounts to 14,700 ingots. It appears, then, that the quantities which will be offered for public sale will be about 70,000 ingots. The article maintains a tolerably good position on the German markets, and the Paris market has been quiet at previous rates; Banca has made 967. Straits, 987; and English, 911, per ton. As regards lead, the information received from the producing centres in January is more satisfactory; the stock at the works is inconsiderable, while the requirements of business have become more pressing. At Paris, French and Spanish leads maintain themselves, as hitherto, at 191. 16s. per ton. In order to meet the pressing wants of the Spanish Treasury, the Spanish Government has been authorised to alienate or lease the State Lead Mines at Linares. Zinc maintains itself at about previous rates. On the Hamburg market holders maintain prices more freely. The Paris zinc market has been very quiet; rough Silesian remains quoted at 217. 4s. per ton.

Meetings of Mining Companies.

THE SHROPSHIRE COPPER COMPANY.

A few days since the directors of this company, accompanied by some of the largest shareholders, several practical agents, and others interested in the successful development of the mineral resources of this important district, paid a visit to the now celebrated Westcott Mine, the property of the Shropshire Copper Company. As described by an eminent practical authority, the hill which constitutes the chief mining ground, and which is composed of crystalline rock, is very favourable to copper ore formations, and the holding down to a good depth, is traversed by seven or eight lodes, if not more, presenting fully approvable mineralogical characteristics and conditions. Under the high ground, and more particularly below the present adit level, the lodes will make regular, continuous, and profitably productive courses of ore. Depend on it, he says, Westcott possesses a power of production which, on being properly brought into action, will not disappoint expectations, but, on the contrary, be sure to realise great, early, and lasting success.

Situated in the same districts as such famed mines as the Old Bog and Snailbeach, the latter of which has continued to return for something like ninety years a net annual profit of not less than 20,0007, Westcott has already established for itself an exceptional fame, by reason of its unusually rich character of ore, which not only does not deteriorate in quality as the operations are extended, but increases in quantity more than proportionate with the progress of development. Although the property has been in possession of the Shropshire Copper Company for a period not exceeding two years, it is amply provided with adequate machinery, plant, &c., while the underground operations are conducted upon an extensive scale, considering the comparatively short time that has elapsed since the formation of the company. Every detail has been efficiently carried out by Capt. John Kitto (the manager) with the utmost regard to effectiveness, and yet compatible with the strictest economy; at the same time upon a scale equal to all the requirements of a progressive rate of production for many years to come.

Unfortunately, by some misadventure, the deputation were deprived of the presence of several influential gentlemen from Preston, Dudley, Liverpool, and other places—all of whom had promised to attend, being largely interested in the success of the Westcott and other Shropshire mines. Among those present, however, may be mentioned Mr. Robert Curwen (merchant), Liverpool; Mr. James Humby (shipowner), Liverpool; Mr. Joshua Prowse (merchant), Liverpool; Mr. Henry Whittle (Whittle and Co.), Liverpool; Mr. E. H. Lowe (director of the Shropshire Lead Company), Shrewsbury; Capt. J. Kitto (manager of the mine), Shrewsbury; Mr. S. Harley Kough (the solicitor), Shrewsbury; Capt. James Nancarrow (manager of the Stiperstones Mines, Shropshire); Capt. Pascoe, &c.

After the visit to the mine, which occupied the greater part of the day, a meeting was held, for the purpose of eliciting the opinions of the "practicals" and others who had formed the deputation as to the probabilities of this promising young mine, attesting by permanently profitable results the tangible evidences it is at present yielding.

Mr. ROBERT CURWEN was called to the chair. He expressed his entire satisfaction with the speedy, efficient, and economic manner in which every detail had been carried out. He need hardly say that he represented the views of all who had that day visited the Westcott Mine, when he stated that he was more than satisfied with the dispatch with which the machinery had been successfully completed, and now in such an efficient working order, reflecting the greatest credit upon the zeal and energy of Capt. John Kitto, their manager; and as to the blocks of rich copper ore—than which richer could not be desired—that were brought out of the mine in their presence, and which upon breaking up proved to be of a richer quality than previously indicated—those, all would agree, were unquestionably the most substantial guarantees that any mine could possibly afford as to its intrinsic mineral value. All he could say was that, however much he had previously been satisfied as to the capabilities of Westcott, what he had that day seen convinced him—as one of the largest shareholders—that he possessed a property that would further develop and yield results far exceeding the most sanguine anticipations. (Hear, hear.)

Mr. JAMES HUMBY said, as the founder of the mine, he need hardly say it was peculiarly satisfactory to him to find that the favourable opinion he formed of the Westcott Mine before it came into the hands of the present company was already more than confirmed by actual results. The time was when it was thought that it was not a copper-producing district, but that idea had now been entirely dispelled, for no miner—however prejudiced—would be bold enough to assert that under those carbonates—the richest, he had no hesitation in saying, that had ever been produced by any mine in the United Kingdom—considerable and productive deposits of copper ore would not be found. (Hear, hear.) They had already opened the mine to a depth of 22 fms. below adit, and had done it in 12 fms. west; and he was glad to be in a position to state that the deeper the exploration was extended the more productive became the character of the ore, and the continuance of the drive in either direction, whether eastward or westward, proved that the deposits were permanent in character and rich in quality. One of the important features in connection with the development of their property was the exceptionally rich quality of its ores—indeed, so strikingly was this the case that, upon reference to the Mining Journal, he found that of the 300 mines quoted, in neither was the quality of the ore in any way compared with that of Westcott. (Hear, hear.) He wished it to be distinctly understood that that was not a mere statement of his own, for it was based upon the statistical information published in the Mining Journal; but he would go further still, and compare the Westcott ore with that produced in Chili and Australia. He found by the Mining Journal of July 13 that of all the ores sold by the foreign mines in no single instance was the quality equal to that of Westcott. (Hear, hear.) On looking over the Mining Journal this morning, he observed that while the average percentage of the ore of the Cornish mines was in every case considerably below that of Westcott, the average price of foreign ores sold at Swansea was 97. 18s. 9d. per ton, and that the average percentage was only 13 per cent. Now, what would gentlemen think when he informed them that the ore now being yielded by their Shropshire mine was 58 per cent., and that the general average far exceeded any foreign ore brought into the port of Swansea? (Hear, hear.) He had no doubt that statement would be published to the world, and, probably, he would hereafter be called upon to substantiate it; but, as he had already said, he made it without fear of contradiction, taking the Mining Journal as his authority. (Hear, hear.) When this company was established it was contemplated that 40007 would be sufficient to prove the mine, and that the expenditure would be extended over a period of something like two or three years; but the prospects so materially improved, and remembering the well-attested mining proverb, that "time is money," they had judiciously and wisely, he thought, expended 80007. In not more than 18 months. What was the result? Why, the mine was provided with a powerful steam-engine, capable of taking them down to a depth of 100 or 150 fms.; water-wheels had been erected, dressing-floors had been laid out, and were now being rapidly extended, precipitating pans prepared, and, above all, the underground operations were being rapidly and extensively prosecuted. (Hear, hear.) All this had been done in the short space of 18 months, and, moreover, the mine was now in a position to produce 50 or 60 tons of copper per month—in fact, from the present time progressive profits would be realised. (Hear, hear.) He did not know another instance—and he was not without considerable experience—in which so much work had been successfully completed and such results realised in so short a period as 18 months, and in which such prospects existed of immediately entering the Dividend List. As the mine had been proved to contain at least seven well-defined lodes, all of which seemed likely to prove more productive as development extended, he felt that the shareholders had substantial grounds for hoping that Westcott would be as permanently productive of copper as its celebrated neighbour Snailbeach had been for nearly a century productive of lead, in which case the shares in Westcott would, like those in Snailbeach, be handed down to posterity as a valuable heirloom. (Hear, hear.)

Mr. JOSHUA PROWSE said that each shareholder could but thank Mr. Humby for his able and lucid speech, in which he had so clearly placed before them the exact position and prospects of their promising enterprise; but, at the same time, he (Mr. Prowse) thought that some explanation should be afforded, lest it were supposed that the 80007 expended, as entirely to depend upon the attention to that fact, and that new they had Prowse for calling his attention to that fact, and stated that in addition to the reserves of ore there was an uncalled capital amounting to 50007.

A SHAREHOLDER said that, as far as seen, Westcott certainly appeared to be a very valuable property, and as the directors were men of high commercial standing, and held a considerable pecuniary interest in the mine, he was quite satisfied that no one connected with the company need in any way feel the slightest distrust; but, on the contrary, be confident that every detail will be carried out with due regard to the interests of all concerned. (Hear, hear.) Mr. WHITTLE (a director) said that each member of the board, like the other shareholders, had invested his capital to prove the merits of the mine, and he was naturally seized every reason to believe that they would all be amply rewarded for their outlay. Moreover, the board was so constituted that they did not require it until at least some handsome return had been given to the shareholders in the shape of dividends. (Hear, hear.) As far as the mine was concerned, he thought the best report that could be given was the results that were realised. Mr. HUMBY said it appeared to him to be a great pity that the mining companies were not better acquainted with the results that were realised by the Shropshire mines. To him, it was altogether inexplicable that mining was not carried on to a greater extent in a district where so many prizes had been won, and the only way in which he could account for it was from the fact that the results attending the development of the mines in that locality were not sufficiently known.—Capt. J. NANCARROW (the manager of Stiperstones), correcting something like 15,0007; they had been at work about two years, during which time they had returned something like 13,0007, worth of lead ore, and at the present time were about paying costs. He hoped in six months hence they would commence to pay dividends. (Hear, hear.) He had been a miner for upwards of 40 years, and had had considerable experience in the Chilean mines, under the late Mr. Sampson Waters. He had for the last year or two minutely studied the Shropshire district, and the result of his investigation was that he had come to the decided conclusion that it was one of the best mining districts in the United Kingdom. (Hear, hear.)

Mr. S. HARLEY KOUGH said it gave him the greatest satisfaction in being connected with the Shropshire Copper Company, because the directors were men with whom it was an honour to be associated. As to the mine, the results so far must be considered as most satisfactory—indeed, there seemed reason to hope that in a short time Westcott would enter the Dividend List. (Hear, hear.) The best evidence he could give of his opinion was the fact that he had recently purchased a considerable interest in the mine.

The CHAIRMAN said he had no doubt every gentleman present would like to hear some remarks from their able manager, Capt. Kitto. (Hear, hear.) He (the Chairman) had known Capt. Kitto some time previous to his connection with the mines in the Shropshire district. He (the Chairman) had always had good reason to place the most implicit confidence in him, both as a mining adviser, a practical mining agent, and as an efficient and energetic mine manager. (Hear, hear.) Should mining be extended in that district, and there was every reason why it should, if they could only place such men as Capt. Kitto at the direct practical details they might rest perfectly satisfied that everything would be done that practical skill and zeal could compass to produce as speedily as possible, and yet in the most effective manner, the desired results. (Hear, hear.)

Capt. JOHN KITTO (the manager) thanked the Chairman for his expression of confidence towards him (Capt. Kitto), and all he could say in reply was, that it would be his unremitting endeavour to continue to merit it. (Hear, hear.) He had done, and would continue to do his utmost to promote the interests of those with whom he was associated in this enterprise. With regard to the Shropshire district, too much could not be said in its favour, which was proved if they looked at the mines that surrounded their property. There was Old Snailbeach, which had for a period of something like ninety years continuously yielded an enormous annual profit, and at the present time was returning 200 or 300 tons of pig-lead per month. Then there was Central Snailbeach, which, although up to the present time had not yielded any great results, yet, he believed, at no distant day would produce a large mine. He saw no reason whatever why Central Snailbeach, when further developed, should not vie with its adjoining rich neighbour. If they went a little further west, they came to the Oven Pipe Mine, where he was underground a few days since; they had there a course of lead ore producing from 8 to 8, and even 15, tons per fathom, and yielding a monthly profit of something like 5007, or 6007, and there were the Pennerley Mines, which, although they were only now "forking" the water, were expected to yield a large quantity of lead ore, with every prospect of a considerable increase. Then they came to the Old Bog Mine, which adjoined Pennerley; that mine had returned immense quantities of ore, and at the present time was being successfully re-opened. On the other side of the hill, there was the Gravels Mine, which was returning upwards of 100 tons per month, and yielding large profits; and the Grif and other mines, all having returned large quantities of ore. Over the hill, they came upon another formation, and upon another description of ores. The sandstone formation was there found, and a small lead mine—well-defined copper lodes had been, and still were being, traced, and near the top of the present they had not been worked to the depth, consequently they were not returning any very great quantities of ore. Adverting to their own Westcott Mine, which was in the sandstone formation, he scarcely knew where to begin to speak of its merits. Several important lodes of very considerable promise had been opened out, although for the present their operations were principally confined to the development of two or three of those which appear to them most important, and as the development progresses their opinion was more than confirmed, and as the development improved in quality and quantity, the demand was increased. Already the ore raised, and the ore ground opened out, he (Capt. John Kitto) ventured to say, far exceeded their most sanguine expectations. He had already said that at present their operations were principally confined to two lodes—Humby's and the engine-shaft lodes. Upon Humby's he had sunk 22 fms. below adit, or about 40 fms. from surface, and from that sinking and driving there had been raised something like 200 tons of ore, for very little had been stoped away. A large extent of ground had been opened out, considering the time they had been at work, and there was no doubt ten or even large quantities of ore to be taken away. He saw no reason to doubt that this lode would soon become not only as productive, but highly profitable. The engine-shaft had been sunk from surface to a depth of 20 fms. below adit, and the lode driven upon for some 15 fathoms east and 12 fathoms west; for nearly the whole of the distance westward they had ore ground in paying quantities. An improvement had taken place this morning in main part of the lode east shaft, and he confidently looked forward to important results being realised. The shareholders had seen that a 30-in. cylinder-engine had been erected, which would be ample to drain the mine to a depth of 100 or 150 fms. below the water level; that a crusher and drawing-machine had been completed, and that three precipitating-pans had been prepared; indeed, that there was every requirement necessary for the successful carrying on of a great mine. Taking the property as a whole, he had no hesitation in saying that it was one which possessed features not usually found in any mine, whether as regards the value of its ores, promising facilities for an economic development, and great productive capabilities. He hoped, as he believed, that it would prove upon adequate development to be might be allowed the expression—the "Snailbeach" Copper Mine of Shropshire. (Hear, hear.)

Mr. PROWSE had listened with considerable interest to the remarks of Capt. Kitto, and from what he had seen that day he felt perfectly satisfied that everything was being done to promote the best interests of all concerned. He had known their worthy Chairman for many years, and he was sure that everything with which he was connected would be carried out with the greatest efficiency. If efficient and energetic management would secure success, he was sure that it was satisfied it would be realised in the Westcott Mine; but, apart from the consideration, there seemed to be every tangible element of success. (Hear, hear.)

Voices of thanks were passed to the Chairman, directors, and to Capt. Kitto for the satisfactory information they had communicated as to the position and prospects of the mine. The meeting then separated.

WORTHING MINING COMPANY.

The annual general meeting of shareholders was held at the offices, Bishopsgate-street Within, on Monday.

Mr. CYRUS LEGG in the chair.

Mr. W. J. LAVINGTON (the secretary) read the notice convening the meeting.

The report of the directors (an abstract of which appeared in last week's Journal) congratulated the shareholders that, notwithstanding the low price of copper which has operated very seriously against the success of the company, they have during that period paid all expenses of working, &c., and the last annual meeting the company was indebted to their bankers in London for the credit of the directors, 20007, with cash and bills receivable in hand 757. 18s. 1d.; leaving a debit balance of 12427. 18s. 11d. against the company. The cash in the colony amounted to 481. 8s. 10d. The dividend position on June 30 showed a cash balance in favour of the company of 6127. 16s. 10d. This result, considering the low price of copper, compared most favourably with that at Bremer, and the actual cost of working, compared most favourably with that of the best mines in the colony, the cost of which is of a much higher percentage. For instance, the Burra ore, according to their last account, averaged 22 per cent., and cost 14s. 1s. 2d. per ton raising; the Moonta, with all its advantages, averaging 19 per cent., cost 7s. 0d. per ton; and the average of Bremer ore, during the past year was 10 1/2 per cent., and cost 5s. 2s. per ton; they were, therefore, testimony to the untiring perseverance and energy of the colonial committee and acting manager, and their economy in working the mine. At the Wharfedale Mine (considered to be much richer than the Bremer) nothing has been done during the past year, nor is it the present intention of the directors to develop the same, until the company has paid satisfactory dividends, or the actual cost can be worked by other parties. The accounts show that the total expenditure at the mines for materials, working, &c., has been 19,271. 2s. 3d.; and the amount received for rent, materials, and regulus was 18,251. 12s. 4d.; strictly speaking, the cost of working ought to be put down at 16s. 11d. would only, as in the amount above mentioned the sum of 11297. 16s. 11d. would (had the mine been in a paying condition), have belonged to capital account, the same having been expended in works of exploration, though paid for out of the returns. By the May advices the committee of management are sanguine that the ore standing last year, and the committee of management are sanguine that commencing the year with a clear balance-sheet, the result will be of copper to the shareholders. Should the costs remain the same, and the price of copper improve, they believe the Bremer Mine will in its productive end in the colony of management vie with any other mine of a like description with which it has hitherto had to contend.

The CHAIRMAN said that the small number of shareholders present upon this occasion was accepted by the directors as an augury that

they were satisfied with the way in which the affairs of the company had been managed. He need hardly say that he regretted they had gone on so long without dividends, but still, when he looked at the report, he felt satisfied that no one would think but that the best had been done under the circumstances, and that the low price of copper, looking at the economic management, and considering the cost of raising the ore, it was evident that the manager and local committee had done their duty, and it was pleasing to know that they had sufficient means in hand in the colony to meet all the debts contracted in this country. The report really contained all the information the directors had to communicate, and if there were any particular point that required amplification he should be glad to afford all information necessary, the opinion of the directors being that what they knew should be communicated to their constituents. He moved that the report and balance-sheet be received and adopted. Dr. WOTTON seconded the proposition. The motion was put and carried unanimously.

Mr. RUSSELL said he had great pleasure in proposing the re-election of Mr. Cyrus Essex as director. From his well-known character and high commercial position it was impossible to find a better man. Shareholders had but little idea of the interest their worthy chairman had taken in the conduct of the affairs of the company, nor of what inestimable service he had rendered, especially during the difficult matters with which they had to deal. Mr. Cyrus Essex's connection with some of the largest establishments in London, and his long connection with the present company, were sufficient guarantees that he was one of the best men that could possibly be selected to promote the interest of the enterprise. Mr. Essex had done much pleasure in seconding the proposition; which was put and carried unanimously.

The CHAIRMAN thanked the shareholders for this renewed mark of their confidence, and assured them that so long as he retained a seat upon the board he would endeavour to act with honour and integrity, for he had no private ends to serve; and nothing would afford him greater pleasure than to be able to show that the directors were in a position to give the shareholders some return for their confidence, and that they had entered the Dividend List of Australian Mines. He could only state that he had much pleasure in proposing the re-election of Dr. WOTTON as director. Dr. WOTTON had been of very great assistance in promoting the interests of the shareholders and the welfare of the company. Mr. RUSSELL seconded the proposition, which was carried unanimously. The CHAIRMAN said he duly appreciated the compliment just paid him. He was connected with the original formation of the company, and had never sold a share, but was more than ever convinced that the Worthing Mining Company would yet prove a permanent success.

Upon the election of Mr. MARSHALL, seconded by Mr. VIDLER, the retiring directors (Messrs. Elkington and Ehrenspurger) were re-appointed auditors.

Mr. RUSSELL had much pleasure in proposing that the thanks of the meeting be given to Mr. Alfred Hallett for his untiring perseverance in the prosecution of the works at the mine, and for his unwearying efforts to make the mine remunerative, and that the directors be requested to communicate the same to him; and that the thanks of the meeting be also given to the colonial committee. He knew that Mr. WOTTON had great pleasure in displaying in endeavouring to make the company a success, and although up to the present time the shareholders had not received any return, owing to the unprecedentedly low price of copper, yet he (Dr. WOTTON) believed that Mr. Alfred Hallett would soon be rewarded with success, in which each shareholder must participate.

The resolution was put, and carried unanimously.

Mr. ESSEX then proposed that the best thanks of the meeting be given to Capt. Gifford and the other officers of the mine.

Dr. WOTTON seconded the proposition, which was carried unanimously.

A SHAREHOLDER asked if any other Australian mines?

The CHAIRMAN said he could not more satisfactorily reply to that question than to refer to the report of the colonial committee, in which they state that the advantage of our system is shown by comparing results. Thus, Bremer cost 2s. 6d. per ton, 10s. 10d. per ton, value 7s. 9s.; Moonta, 19 per cent, 13s. 9s. 2d.; Burras, 25 per cent, 15s. 11s. 8d. Moonta shows profit on 19 per cent, 3s. 19s. 8d. per ton; we should show 6s. 9s. difference, in our favour 2s. 9s. 4d. The Burras shows loss on 25 per cent, 3s. 10s. 10d. per ton; we should show 6s. 11s. 6d. difference in our favour, 12s. 10s. 10d. per ton. These figures give you an actual comparison, and the circumstances were exactly similar, but allowance must be made for the Burras for extra cartage and extra cost of fuel; whilst the Moonta is more favourably situated, being only 12 miles from a shipping port, and possessing the advantage of tramway and rich lodes. If (continued the Chairman) they could sell their copper at not more than 100s., no shareholder would object to his connection with the Worthing Company.

Mr. ARCHER said the shareholders had the greatest reason to be satisfied with the manner in which the mine was being worked. He believed it was the only mine in Australia that had shown a favourable result during the past year, with the exception of Moonta. He had much pleasure in proposing that the best thanks of the shareholders be given to the directors for their continued attention to the interests of the company. Mr. JEON seconded the proposition, which was put and carried unanimously.

The CHAIRMAN, having appropriately acknowledged the vote, said that when they found that the Burras Burras Mine, with a 20 per cent. ore, was obliged to succumb to the pressure of the market, it could not fail to be satisfactory to know that their Bremer Mine had paid its way, and given a profit; at any rate, there was a great deal of credit due to some one.

Mr. ELLIOTT (a director) thought the shareholders' attention should be drawn to the fact that the land alone belonging to the company must eventually become of considerable value. As to Wheel Maria, a gentleman of considerable influence in Adelaide had recently attended one of their board meetings, and this gentleman had stated that the Wheel Maria would turn out a second Burras. That as soon as the company was in a position to pay dividends they should appropriate a certain portion to the development of Wheel Maria; and in many respects, the Worthing Company had most encouraging prospects looming in the future.

A vote of thanks to the Chairman terminated the proceedings.

PRINCE OF WALES MINING COMPANY.

The quarterly general meeting of shareholders was held at the offices of the company, St. Michael's House, Cornhill, on Tuesday, Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. JEHU HITCHINS (the secretary) read the notice convening the meeting, and the minutes of the last were approved.

A statement of accounts was submitted, which showed a balance of assets over liabilities of 35487. 11s. 1d. The profit on the three months' operations was 16707.

The CHAIRMAN said he need not further advert to the accounts just submitted, than to state that it showed the actual position of the company at the present time. As the July cost was due next week, the amount, of course, had not been charged, nor, on the other hand, had the ore raised during the same month been credited.

Mr. W. MICHELL took exception to the accounts, upon the ground that there were four months' credit of ore against three months' costs. Mr. DAUKES supposed, as the amount had been received, it must appear somewhere. At the last meeting the amount was only estimated; but as it had since been actually received, it now very properly appeared as cash. Mr. JEHU HITCHINS did not remember that Mr. MICHELL called attention to the fact at the last meeting that there were four months' costs against three months' returns. (Hear, hear.)

The CHAIRMAN said he was glad that there was such money in hand, and that the accounts were referred to by Mr. MICHELL was one of receipts and expenditure since the last meeting, crediting all cash received, and debiting payments; and one month's ore, crediting as an asset at last meeting, was now brought in as cash: putting the three months' costs against the three months' returns, the profit realised was 16707. He then read the following report:—

Aug.—We beg to hand you our report for the meeting on the 13th inst. Since the last general meeting Watson's shaft has been sunk 2 fms. 3 ft. below the 55 fm. level—ground favourable for sinking; trip-plat cut, and pent-house put in; also tramroad in the 55 fm. level, &c., complete. The 55 fm. level cross-cut north has been driven 3 fms. 3 ft., being now 8 fms. 3 ft. from shaft, and 16 fms. from the main lode; and, as we are daily cutting an increase of water, the same has been highly mineralised, and the strata very favourable for copper. We have every reason to believe when the lode is cut it will prove productive. The 55 fm. level east has been driven 9 fms., being now 17 fms. 1 ft. from cross-cut; the lode in the present end is 2 ft. wide, worth 18s. per fathom. The 55 west has been driven 5 fms., being now 9 fms. west of cross-cut. The east cross-course is intersected, and cut into 2 1/2 feet. As this cross-course was more than 6 ft. wide in the level above, it will take some days to cut it through in this level; but, if indications are anything, we consider the cross-course here, so far as soon, to be more favourable (if possible) than in the 45, being composed of beautiful raggy spar and quartz. The 45 east has been driven 5 fms., being now 45 fms. east of cross-cut, with 8 ft. driven north to intersect the north part of the lode, which is seen gone off 8 fms. behind the present end; but so far nothing has been met with. The 45 west has been driven 4 fms. 3 ft., being now 22 fms. 3 ft. west of cross-cut, and 4 fms. west of western cross-course; in the present end the lode is 1 1/2 ft. wide, worth 10s. per fathom. The rise in back of the 45 west, between the two western cross-courses, is up 3 fms.; the lode is 2 1/2 ft. wide, worth 12s. per fathom. We have four stopes working—One in the back of the 55 east, east of winze, by six men; lode worth 20s. per fathom. One in the back of the 55 west, west of winze, by six men; lode worth 20s. per fathom. One in the back of the 45, west of cross-cut, by six men; lode worth 25s. per fathom. One in the back of the 44 east by two men; lode worth 20s. per fathom. In conclusion, although the ends are not so rich as at the last meeting, we are still cutting out more ore than we are taking away. We sampled on Friday, July 26 (computed) 132 tons, and have 50 tons now broken on the mine.—J. GIFFORD, W. GIFFORD, P.S. The new air and whelm shafts are down 3 1/2 fms. from surface, and we shall commence raising against it in the beginning of next week, and hope to communicate it with the 45 east in four months from this date.

The CHAIRMAN stated that at the request of the committee, Capt. Gifford was present to answer any question, or to afford any further information that shareholders might desire. Mr. WATSON asked the produce of the last 132 tons of ore?

The CHAIRMAN said it was estimated to realise about 800l.

Mr. MICHELL wanted to know why the assay of the parcel of ore now for sale had not been published, or why the shareholders had not been allowed to see it?

The CHAIRMAN stated that, so far as he knew, the letter containing the assay had been open at the office for the inspection of all who wished to see it; but the assay requested it might not be published, owing to the silver. Each parcel had several ounces of silver to the ton of ore, but was about 1 per cent. less for copper.

Mr. CEILL asked if Captain Gifford could give any idea when the next level would be reached?

Mr. GIFFORD computed it would be reached in about four months from the present time.

The PETER WATSON would like to know when the lode in the 45 fm. level was reached?

Capt. GIFFORD thought the lode would be reached in about six months hence.

Mr. MICHELL said the ground was very favourable for sinking. Captain

GIFFORD said he wished to take this opportunity of stating that, notwithstanding all that had been intimated by certain parties, the mine was being worked efficiently, and that the ore was being taken away in the best and cheapest manner. Winzes were sunk, in order to facilitate the cutting out of the ground, and also for the purposes of ventilation. Now, when the winzes were sunk, and communicated with the 55, stoping was commenced. He defied contradiction to the statement that that was the best and cheapest mode to get away the ore.

Mr. WARD about three weeks since was upon the mine, when he saw Captain Gifford's son, with whose general intelligence and ability he was much pleased. The result of the enquiry induced him to come to the conclusion that the cutting of the north lode was one of the most important points in the mine.—Capt. GIFFORD considered there was a good chance of cutting it very good—it was a parallel lode.

Mr. PETER WATSON asked if it were true it had been cut?—Capt. GIFFORD said, some people seemed desirous that others should believe it had been cut, although it certainly was not the case. Some strings had been cut, but that was accounted for, coming from the surface. He further stated (replying to questions by Mr. Peter Watson) that at the present time they were discovering at least as much ore as was being taken away; and that taking the mine throughout they were driving on an average a little over 8 fms. per month.

Mr. PETER WATSON said a letter appeared in the *Mining Journal*, on June 15, in which attention was called to a London Circular, stating that the "remarks were disreputable." As the Circular referred to happened to be his, he would take the liberty of quoting the "disreputable remarks." They are as follows:—

"I have again had this mine fully inspected, and as to the present mode of raising the ore, and so giving the present profits, my inspecting agent fully refers. I have no desire to publish his views, although, as he says, they are facts, and written in a perfectly disinterested spirit, and he suggests that two perfectly disinterested agents should be sent by anyone or all of the shareholders to see whether what he has said as to the present mode of working and reporting on the mine generally is not the truth. The valuations he puts on the different points are very different from those of the agent at the mine." The only purport of those remarks was that disinterested agents should be employed to verify, or otherwise, the computations of their own agent.

Capt. GIFFORD said, in his estimation, the remarks were, at least, ungracious to say that the mine was not being fairly worked.

Mr. PETER WATSON asked the estimated value of the present reserves?

Capt. GIFFORD replied that they were worth between 18,000l. and 20,000l.

Mr. PETER WATSON said he did not wish to contradict that statement.

Capt. GIFFORD wished him to do so, and state the basis upon which the contradiction was made.

Mr. PETER WATSON would like to know if there was sufficient ore to keep up the present samplings until the lode in the 65 was reached?—Capt. GIFFORD said there was no doubt of that for one moment, and a great deal more.

A SHAREHOLDER had formed his opinion of the practical ability and integrity of Capt. Gifford by the very high opinion Mr. Warrington Smyth entertained of him.

Capt. GIFFORD, replying to questions by Mr. Dawkes, stated that the reason the 55 fathom level west was not worth so much was because the end was now in the cross-course. They were driving only upon the south part of the lode, which accounted for its being worth only 8s. per fathom; the large capel part of it was left for the time standing; so far as taken down it was the productive part of the lode. In addition to the part valued, the lode was worth 7s. to 8s. per fathom. Supposing both parts were being driven upon, the lode would be worth 18s. to 20s. per fm.—Mr. DAUKES wished to call attention to the fact that the point valued was only estimating one part of the lode, although the other part still remaining would come away at a profit by and-by. They might at any moment suddenly come into a lode worth 40s. to 50s. per fm., as they did in the 45. It was simply an accidental circumstance that, at the time of the general meeting, some of the ends were in the cross-course. That had temporarily depreciated the value of the end, which, of course, was made the most of by those whose pecuniary desire was to depress the market value of the shares; but they all knew, and none better than the detractors, that as soon as the cross-course was passed the end would not only resume its former value, but, if they argued from precedent, would positively increase in value. These were facts with which shareholders should be made acquainted.

Capt. GIFFORD said the lode had been seen in one end, but hardly sufficient yet to prove whether it was actually out of the cross-course or not, but still it had very good stones of ore.

Mr. HITCHINS said there was one most important point respecting the cross-courses, which was that they held down stronger than they did in the 45; that was a very good augury that they and the lode would continue in depth.

The CHAIRMAN wished to ask Capt. Gifford—that being the point to which all the questions that had been put tended—whether he was taking away more ore than was being put down? He knew the question had been previously answered, but for his own satisfaction he wished the question replied to.—Capt. GIFFORD could only repeat what he had previously stated—that a great deal more ore was being discovered than was being taken away.

Mr. PETER WATSON asked if they were suffering in any way from want of water?—Capt. GIFFORD said they were, to a certain extent, just now, but a few showers would put them all right.

Mr. PETER WATSON said that at the last meeting he enquired if they were likely to suffer from want of water, and Capt. Gifford replied in the negative. He found it all reported in the *Mining Journal*.—Capt. GIFFORD said he was still of the same opinion.

Mr. PETER WATSON asked where the ore was being crushed?—Capt. GIFFORD said that the ore was being crushed on the mine, although 30 tons had been crushed at Hington.

Mr. PETER WATSON wished to know if another winding-engine would be required?—Capt. GIFFORD said there certainly would, as had always been anticipated. He further stated that the engineer computed the present engine would last to the depth of at least 100 fathoms.

Mr. HITCHINS said they all hoped and believed they would have a mine to a much greater depth than that.

The accounts were then passed and allowed, and the report was ordered to be entered on the minutes.

Mr. DAUKES said he had much pleasure in proposing that out of the credit balance of 2944l., a dividend of 2s. 6d. per share be declared, after the payment of which there would be left a balance of 1354l. to be carried forward to the credit of the account, without taking into consideration the value of the July ore, which, after deducting the July cost (not yet due), would, of course, considerably increase the credit amount. He had no hesitation in saying, upon the authority of Capt. Gifford, that there was not the slightest doubt that at least the present rate of dividend would be continued.

Mr. HAMILTON having seconded the proposition, it was put and carried.

Mr. F. G. LANE said that recently he had had the mine inspected by one of the leading authorities in Cornwall, whose opinion was that it would prove to be a very good mine. The authority referred to was much pleased with the position and prospects of the mine, and was perfectly satisfied with the way in which it was being wrought.

At this juncture of the proceedings it was discovered that the share list was missing. As the only object the party who took it could have in view was to get into communication with the shareholders, a vote of censure was passed upon the person who had so lamentably forgotten himself as to be guilty of an act so underhand and reprehensible.

A special vote of thanks and confidence was passed to Capt. Gifford. A similar compliment to the Chairman and committee terminated the proceedings.

COAL NEAR NOTTINGHAM.—The discovery of a vein of coal on Sir Robert Clifton's estate near Nottingham is regarded as one of some importance in scientific circles. It had been frequently maintained by geologists that it was impossible for coal to be found on the south side of the Trent, except at an enormous depth. Their contention was that it was cut off by what is termed the great Nottinghamshire and Derbyshire Fault. For many years the late M.P. for Nottingham was under the impression that the mineral might be discovered under his estate, and about 12 years since he engaged persons to bore, but they stopped at about 140 yards deep, and it was surmised that they were bought off. The matter lay in abeyance until last January. Since that time trials have been going on, and on the 29th of this month, culminated in the finding of a valuable bed of coal at a depth of only 187 yards. The mineral is of the finest quality. At the present time the discovery is of great importance, as it opens up a vast field of fuel and mineral. It is thought that the same place contains beds of coal worth many million pounds sterling. It is also believed that ironstone of good quality abounds in sufficient quantities to make an additional source of revenue, besides immense beds of clay, which have been tested and found equal to the best qualities of bricks. Perseverance has here met with its reward.—*Cambria Daily Leader*.

NOVEL TUBULAR BOILER.—An improved tubular boiler, adapted for heating and warming purposes, is at present being successfully constructed by Mr. B. J. of Macclesfield. It consists of a circular tube, the different parts of which are connected by a series of horizontal pipes, which form the fire-bars. At a given distance above this ring is an annular steam-chamber, and the two are connected by a number of vertical tubes of peculiar form. The whole is set in brickwork, and the fire is made in the boiler, which, as will be understood from the description, is of the form of a basket. The fuel is fed in through the centre of the steam-chamber. It is claimed that the new boiler has many advantages, obtained in construction, economy, and durability, over the ordinary apparatus. One of the most important features is that in the event of injury to a tube it can be taken out and replaced in a short time without disturbing any other portion of the boiler, and at a very small cost rendering it again perfect. Having to contend with only one-half the number of joints ordinarily used, it thus obviates a great defect, which has hitherto been the condemning portion of nearly all tubular boilers. Another decided advantage is the facility with which the tubes can be cleaned. When the boiler is fixed in brickwork, by removing the top covering of the whole parts to be cleaned can be easily got at. The saving in fuel is very great, as the amount of heating surface fully exposed to the fire is much greater than that of any other boiler extant, thus making it efficient, powerful, and economical.

ALCOHOL AND ILLUMINATING GAS.—Some Austrian chemists have recently been enquiring carefully into the best mode of utilising the waste products of coal oil refineries and distilleries. The result has been a successful and economical plan for obtaining alcohol from the oil waste, and a very superior illuminating gas from distillery waste. The gaseous product of the latter is said to have four times the illuminating power derivable from coal gas, and can be produced cheaper; while alcohol can be produced so cheaply from the residue of the oil refining, that it is thought it must work a complete revolution in the production of that article.

PETROLEUM AS FUEL FOR LOCOMOTIVES.—The Titusville *Herald* describes the fourth of a series of experiments made at the shops of the Warren and Franklin Railroad, Irvine, as follows:—"The apparatus used was Spencer's burner. It is described as consisting of a pan covering the bottom of the fire-box in the locomotive, and taking the place of grates. On the pan are placed heaters, or gas-generators, six in number, consisting of inclined plates of cast-iron, supported at an angle of 45°. Opposite to each heater is an injector, conveying the oil to the heater, where it is instantly converted into gases, oxygen being only furnished to the gases in their nascent state for combustion. The oil contained in a tank, and from which it is drawn, is fed by pipes to the injectors, each pair of injectors being controlled by a throttle, by means of which the fire is regulated as readily as the light of a lamp. The locomotive used weighed 31 tons, and was of 150-horse power. No cars were attached. Under 58 lbs. of steam the locomotive passed over 4 miles of track in less than 11 minutes. All in the party agree that oil may supersede wood and coal in railroad use." There is at pre-

sent no better field for invention than the contriving of furnaces for producing combustion safely and economically from petroleum. Also, in the feeding from and construction of tanks for conveying the liquid.—*Scientific American*

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

NEW EAST RUSSELL.—I have visited this mine, and believe that not one in the West of Devon has better prospects. One good pile of copper at surface has already been sold, and there are others which will soon be ready for market. It only requires ample working power, instead of horses, to place the mine in a first-rate position.

EAST CHIVERTON.—It is considered that there are few mines in Cornwall more likely soon to become a prize than this: certainly a good sign of what may be expected is the fact of local miners buying the shares. The discoveries expected to be made are, of course, very likely to enhance the value of the property to its old figure, 5s. per share. Besides which a fine lode is known to exist at the western boundary.

AT NORTH RETALLACK, the No. 1 lode of Great Retallack has just been met with in a shaft sinking on the boundary of the two mines. The lode is of the most promising character, producing rich silver-lead, with good carbonates and arseniate of lead, a box of which has been forwarded to the office. The prospects for an early course of lead on this lode are excellent.

GREAT SOUTH CHIVERTON.—All who are interested in this promising mine should make a visit to the office, 2, Bucklersbury, and examine the samples of ore taken from the winze sinking below the 20. The character of the stratum is precisely similar to that of West Chiverton, and competent judges give it as their opinion that in a very short time a valuable lode will be discovered. The specimens are evidently the commencement of a feeder vein, or veins, and, from the character of the gangue spar, there can be no doubt but in a few fathoms further development the character of the lode will be established.

AT GREAT RETALLACK the prospects are highly encouraging, the lode in the bottom end north being worth upwards of 1/2 ton of silver-lead ore per fm.; the end is being driven at 25s. per fm. The stopes in the back of the 20 south are yielding fully 20 cwt. of silver-lead per fm.; price paid for stoping, 12s. 6d. per fm. The No. 1 lode, to develop which operations were originally commenced in this part of the sett, will be cut 20 fathoms below adit in about a fortnight, and should the lode prove productive there is little doubt of the mine speedily making good profits. This No. 1 lode has just been met with in North Retallack, and its appearance there almost guarantees a successful result in the 20. A good parcel of silver-lead will be sampled on the 21st inst.

[ADVERTISEMENT].

From Mr. EDWARD COOKE.—Business in the Mining Market is gradually improving. Railways, banks, and other securities on the Stock Exchange have had a great rebound during the past fortnight, and I have no doubt that there will be a great and favourable reaction in the prices of various mines. Many weeks elapse. Copper has advanced in price, with a very firm market. This will conduce to the benefit of our home mines, and tend to augment their profits. Many mines are now selling at very low prices, and among them may be noticed Wheal Seton, East Lovell, Prince of Wales, Trumpet Consols, South Darren, and Wheal Basset; these are divided mines. And amongst the progressive mines that I should select for a great rise are North Crofty, North Wheal Chiverton, Prosper United, West Great Work, Calbeck Fells, West Wheal Kitty, Wheal Grenville, and Bryn Gwion. No one need be afraid to invest in them; they are selling at very low prices, and contain excellent prospects. The West India Mail, just arrived, has not brought any letters for the Chontales Company. It will be remembered that the last despatches were received by an extra mail, and it could only be a few days later news if any had been sent by the present mail. Mr. Truran, the secretary, will, it is expected, come by the next steamer, and bring not only the latest despatches, but a good remittance of gold. The shareholders may depend upon getting from him a true and correct opinion of the value of their property. I still entertain very sanguine views as to the future of these important gold mines. Pestanova Company, it is said, will receive a larger remittance of gold in a few days than they have ever done. I look upon this company's mines as being the most permanently productive for gold of any that have been before the public for many years. Rossa Grande shares have receded to a very low figure. When they are double the present price the public will probably buy them with more avidity than they have hitherto done. Now is the time to buy these shares, while they are ridiculously low; and, in conclusion, I would strongly advise my friends and the public generally to avail themselves of the present favourable opportunities of making investments in the mines I have named.

The reconstruction of the Mineral Rights Association is being rapidly carried out, about 150 of the shareholders having already transferred their interest to the Mining Association (Limited). The effect of this is to considerably reduce their liability, their shares being now 2s. each (instead of 5s.), with 1s. paid. The Mining Association will have the opportunity of entering into business on the most favourable terms, and in a few months is likely to show very profitable results. The shares will, probably, be much dealt in.

REMOVED RESUSCITATION OF BILLIA, DURLUE, AND THE GIEW MINES.—It is reported that a spirited effort is about to be made to rework the most valuable and productive part of these mines, situated in a district which languishes more than any other in our neighbourhood, but in which there is no doubt we have rich and abundant stores of wealth. These mines comprise the ancient mines—the Billia, Durlue, Western Durlue, Behu, Giew, and Reeth Consolidated, with an additional piece of virgin ground to the east called Trunk Hill. A sale of the whole of this valuable property (consisting of a 36-inch cylinder steam-pumping-engine, new; a 24-in. cylinder steam-winding-engine, new; 27-in. cylinder steam-stroke with 32 heads, and all conveniences; nearly 200 fms. of pit-work, and every other requisite belonging to a mine in complete working order, including counting-house, smith's shop, carpenter's shop, store-houses, yard, stores, furniture, fixtures, utensils, sett, maps, plans and sections, &c.) has been effected, and a portion thereof will be offered by the purchasers to the public. The mines are in the far-famed St. Ives, Lelant, and Towedack district, and immediately adjoin Wheal Margaret, Mary, and Kitty on the south, and Wheal Reeth, Balnoon, and the Providence Mines on the east. The south lodes are identical with those of Wheal Reeth, and the north ones with those of the Balnoon and the Providence Mines; whilst within a very short distance stand St. Ives Consols, Rosewall Hill and Ransom United, and other productive mines.—*Cornish Telegraph*.

HOLLOWAY'S PILLS.—PROSTRATION OF STRENGTH.—When the system is weak and the nerves unstrung disease is certain to present itself, unless some purifying and strengthening means be resorted to to avert the threatened mischief. In such cases no treatment can equal the treatment by these excellent Pills; no other plan can be pursued so well devised for ejecting all impurities from the blood without straining or weakening the constitution. Holloway's Pills so fortify the stomach and regulate the liver that they raise the capability of digestion, and thus create new power. This is the reason why Holloway's Pills have gained their present popularity, and why they have been lauded throughout the globe as a fresh source of life and strength.

First-Class Prize Medal.—Paris Exhibition, 1867.

THE WANZER LOCK-STITCH SEWING MACHINE

has had AWARDED to it the HIGHEST PRIZE given to any machine. See Jurors' Award.

These MACHINES, suitable alike for the Boudoir or the Workshop, are simple in construction, easy to learn, and not liable to get out of order, and are capable of doing a larger variety of work than any other machine yet manufactured. Price from 2s.

CHIEF OFFICE, No. 4, CHEAPSIDE, E.C.

COAL CUTTING MACHINERY.—THE WEST ARDSLEY COMPANY, having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS FOR THE CONSTRUCTION AND USE OF their MACHINES.

The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN THE COST AND IMPROVE THE average SIZE OF THE COAL, TO LIGHTEN THE LABOUR, and also to MODIFY THE SANITARY CONDITION OF THE MINE.

All communications to be made to Messrs. FIRTH, DONISTHORPE, and BOWER, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

Swan Rope Works.

GARNOCK BIBBY, AND CO., CHAPEL STREET, LIVERPOOL.

MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL WIRE ROPES FOR MINING, RAILWAY, and SHIPPING PURPOSES.

MANILLA ROPE OF SUPERIOR QUALITY, FIFTY PER CENT. STRONGER and THIRTY PER CENT. CHEAPER than Russian hemp rope.

WIRE ROPE OF FIRST QUALITY WIRE, and the HIGHEST STANDARD OF STRENGTH.

BRITISH, COLONIAL, AND FOREIGN PATENTS' REGISTRATION OF DESIGNS, COPYRIGHTS, TECHNICAL TRANSLATIONS, DRAWINGS, &c.

MR. MICHAEL HENRY, and the Defence of the Present Patent Law.

PATENT REGISTRATION AND COPYRIGHT AGENT AND ADVISER.

Inventors advised in relation to Patents and Inventive and Industrial Matters. Printed information sent free by post. Specifications drawn and revised. Searches conducted. Abstracts, Cases, and Opinions drawn.

Translations of Catalogues, Trade Notices, and Circulars for the approaching Paris Exhibition. Mr. HENRY has had especial experience in technical French, and in French Manufacturing and Commercial Matters.

Offices, 68, Fleet-street, E.C., London, corner of and entrance in Whitefriars-street.

BRANDY, BRANDY, PURE BRANDY, A CERTAIN CURE FOR CHOLERA, spasmodic symptoms, and internal complaints, when undisturbed; but how seldom to be met with in its pure state, unless from the direct importers, C. DEVEREUX and Co., 26, EAST INDIA CHAMBERS, LEADENHALL STREET, LONDON, at 3s. 6d. and for "premiers qualité," 4s. per dozen, either pale or brown, bottles and case included.

Forwarded same day against Post-office order or remittance.

BRITISH MINES.

EAST ROSEWARNE—C. Glasow, Aug. 15: There is no change to notice in the lode in Kl^g's shaft, sinking below the 95 fm. level, since my last report. In the 95 fm. level, east of King's shaft, the lode is 12 inches wide, worth 5¢, per fathom. In the 95 fm. level, west of King's shaft, the lode is 15 inches wide, producing good stones of copper ore, but not enough to value. In the 85 fm. level, west of King's shaft, the lode is 1 ft. wide, worth 7¢, per fm. In the rise in the back of his level the lode is 12 inches wide, worth 8¢, per fm.

HARWOOD.—J. Race, Aug. 9: The beds or strata are dipping fast to the north in the end of the level, and the ground is more open and easy to drive; think we shall cut a vein in this end in a short time. We have a little ore in

PEDN-AN-DREA UNITED.—W. Tregay, J. Thomas, E. Chegwin, Aug. 10: 10: The lode in the 130 fathom level winze is worth 15l. per fathom; this is perfectly drained by the 140 fathom level cross-cut, where the ground is at

level, east of Crosby's engine-shaft, the lode is small and disarranged. In the 3d level, west of the same, the lode is small, the shaft is small. In the 3d level, west of the same, the lode is small, but we think it will improve shortly.—Shafts and Winzes: There is now but a small part of the lode in Taylor's engine-shaft, which is sinking below the 4th level, and the ground is hard for sinking. Crosby's engine-shaft is complete to the 3d level, and the men put to drive on the course of the lode. In Riva's winze, below the 3d level, the lode is small and unproductive.—General Remarks: There is no alteration requiring especial notice in the tribute and the stope, and the stope continues to yield a fair average quantity of mineral. The surface work is going on very regularly, and the survey is in good working order. We estimate the raisings for August at 250 tons.

LUSITANIAN.—Aug. 6: Palhal: The lode in Taylor's shaft, below the 110th fm. level, is worth 1 ton per fm. River shaft is holed to the 90th fm. level, and the men put to drive east in that level.—Levels on Basto's Lode: In the 90, east of River shaft, the lode is 2 ft. wide, composed of flookan. In the 110, east of Taylor's shaft, the lode is worth 1 ton per fm.; in the 110, west of the same, the lode is 1 ft. wide, composed of quartz and stones of ore. In the 100, west of the same, the lode is 8 in. wide, composed of flookan. In the 70, east of River shaft, the lode is 4 ft. wide, producing $\frac{1}{4}$ ton of ore per fm. In the 38, west of River shaft, the lode is 1 ft. wide, producing good stones of copper. In the 20, east of River shaft, the lode is 1 ft. wide, producing good stones of copper. In the 70, west of slide lode, the lode is small and unproductive, composed of flookan and flookan. In the 18, west of Perez's shaft, the lode is 1 ft. wide, producing occasional stones of ore. In the adit west of Perez's shaft the lode is 18 in. wide, worth $\frac{1}{4}$ ton per fm.—Levels on Caunter Lode: In the 80, east of slide lode, the lode is 2 ft. wide, composed of flookan and stones of ore. In the 70, east of the same, the lode is 18 in. wide of flookan.—On Ponte Lode: In the 28, east of slide lode, the lode is 8 in. wide, producing small stones of lead and copper ore. On granite lode in the west, west of Oak shaft, the lode is 8 in. wide, composed of flookan with little lead.—Crosby's shaft: In the 28, east of the 30th level, the shaft, the ground is very hard, and progress slow. In the 100, south of Taylor's, the ground is very hard, and progress slow. In the 28, south of Basto's lode, the ground is also very hard.—Winzes on Basto's Lode: Winze No. 63 is holed to the 100th fm. level. Winze No. 64, below the 100, west of Taylor's, is a little improved; the lode is 1 ft. wide, worth $\frac{1}{4}$ ton per fm. Winze No. 65, below, is being sunk below the 60th fm. level, west of Campino's winze. We are sinking a winze (No. 66) below the 60th fm. level, west of Taylor's new lode, in order to prove the lode department. Stope on Basto's Lode: Above the 38, west of Fonseca's winze, worth 1 ton per fm.; above the 28, east and west of winze No. 64, $\frac{1}{4}$ ton per fm.; above the 80, west of Domingue's winze, $\frac{3}{4}$ ton per fm.; above the 80, east of the same, $\frac{3}{4}$ ton per fm.; above the 80, east of Taylor's shaft, $\frac{1}{4}$ ton per fm.; above the 60th fm. level, east of Ernest's winze, 1 ton per fm.; below the 60, east of River shaft, $\frac{3}{4}$ ton; above the 90, east of Taylor's, $\frac{1}{4}$ ton; above the 90, west of ditto, $\frac{3}{4}$ ton per fm.; above the 90, east of winze No. 61, $\frac{1}{4}$ ton per fm.; above the 100, east of Taylor's shaft, 1 ton per fm.; above the 100, west of ditto, $\frac{1}{4}$ ton per fm.; above the 28, west of Taylor's shaft, the lode is worth 1 ton per fm.—Stopes on Caunter Lode: Above the 28, east of winze No. 59, the lode is worth 1 ton per fm.; above the 70, east of Tavares's winze, $\frac{1}{4}$ ton per fm.; above the 50, west of Machado's, 1 ton per fm. The stopes on slide lode are suspended.—Stopes on Mill Lode: Over and below the 38, east of Taylor's shaft, is worth $\frac{3}{4}$ ton per fm.—Stopes on Great Caunter Lode: Above the 50, east of Sanaao's winze, is worth $\frac{3}{4}$ ton per fm.—Carvalho: In the 40, east, driving south, there is a branch of ore two fingers wide. In the 40 fathom level west the lode is 4 ft. wide, yielding 6 cwt. of lead per fathom. In the 30 east the lode is 4 ft. wide, yielding 6 cwt. of lead per fathom. In the 20 east the lode is 4 ft. wide, yielding 6 cwt. of lead per fathom. In the 20 east the lode is 10 ft. wide, worth 3 tons of ore per fm. In the 20 fm. level west the lode is $\frac{1}{4}$ ft. wide, yielding $\frac{1}{4}$ ton of lead and blende per fathom. Stope No. 1 is suspended. Stope No. 2, in the back of the 20, west of incline shaft, is worth $\frac{1}{4}$ ton of ore per fathom. Stope No. 3, in bottom of the same, is worth 2 tons of ore per fm. Stope No. 4, in back of the 20, east of incline shaft, is worth 3 tons of ore per fathom. Stope No. 5, in the back of the 30, west of the same, is worth $\frac{1}{4}$ ton of ore per fathom. Stope No. 6, in the back of the 30, west of the same, is worth $\frac{1}{4}$ ton of ore per fathom. We have just put the men to cut the plat at the 40 metre level, and to leave 1.50 metre for the deposit of water. In the last 2 metres we sunk through a white flookan, which we expect is the north part of the lode; we shall cut the plat, and then drive south to cut the lode, which cannot be far off.

WEST CANADA.—Wm. Plummer, July 25: Copper Bay: The new engine-shaft is down for another level, and we propose driving at once. No improvement in the lode. The 50, west of Palmer's, seems a little better; and so also is the lode in Bray's shaft, but the 50, east of Bray's, is very poor. No change to notice in the stopes.—Wellington: The level west of Grenfell's is poor. Crase's shaft will shortly be down for the next level; good progress is being made. The level in the 20, west of the 30, is worth $\frac{1}{4}$ ton per fathom. The 24, east of the Mitchell's shaft, is in no way improved; the 15, east of the same, is as when last reported.—Bruce Mine: The 25, going east of Trial's, continues to improve, and the stopes are without change. The surface works are doing well, but we are not realising so large a quantity of ore as we have been in the habit of doing, but I need scarcely say that we are doing our best.

AUSTRALIAN MINES.

YUDANAMUTANA COPPER.—The superintendent (June 29) states:—I have to advise an additional shipment of 22 tons 18 cwt. of copper per Indus. Heavy rain is making the shaft. Our teams laden with copper. I have let contracts for 2000 tons of wood at 10s. per ton, and have several other applications before me to supply a further quantity. I have made a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north end of the Big Bunch, and to work the 8th level. The 15, east of the 30, is worth $\frac{1}{4}$ ton per fathom. We are smelting that date, 213 tons of copper, and have a sale here of 11 tons 12 cwt. of our rough copper, to test its value. Our assay gave 95.5 per cent. It realised 69l. 4s. 9d. per ton. Capt. Anthony (June 22) reports:—Wheel Blinn: During the past month eight men have been employed stopping the back and bottom of the 10th fm. level between No. 4 shaft and the Big Bunch. Two men have also been employed in laying open the branch in the 20th fm. level. On Monday next I intend to place six additional men underground to stop the north

or, and in a few instances the net proceeds have exceeded this rate per ton. In the past week a battery of eight heads of stamps, weighing about 5½ cwt each, has been set to work. By the use of these good results may be expected, as there are large reserves of dredge ore in the shallow levels, which are now available, besides the facilities which it will afford for the ready treatment of quartz stuff. The debenture bonds, amounting to £225, will become redeemable on Aug. 1 next. The holders of the largest portion have signified their willingness to renew them for a period of one or two years; and your directors recommend that this meeting pass the necessary resolution approving and authorising the directors' acceptance of offers to the extent of £5000. The total quantity of produce shipped to date is—silver-lead ore, 1652 tons 6 cwt. 13 lbs.; silver-lead, 145 tons 15 cwt. 2 qrs. 7 lbs., which, with ore and lead now at the mine, represents a value of 21,497. 10s., net proceeds from the workings of a small portion of one lode out of 17 known to exist on the company's sections. The directors have recently visited the mine, and thoroughly inspected the workings, and are favourably impressed therewith. The report of the secretary's visit to the mine was also read. Capt. Price's usual half-yearly report spoke in very favourable terms of the operations going on, and the future prospects of the mine. The report was adopted, and the renewal of debentures agreed to, the usual complimentary votes terminating the proceedings.

BARTTES IN CUMBERLAND.—A valuable vein of sulphate of barytes has recently been opened up in a range of hills near to Keswick, the "metropolis of the Lake district;" it is found in large quantities, the vein measuring from 6 to 8 ft. wide, and extending for miles. The quality is very superior, and free from iron or lime. The mine is being worked by a private company, under the superintendence of Captain Hall, a thoroughly practical miner, whose efficient management will, undoubtedly, tend to render it a profitable adventure.

WEST BASSET AND SOUTH FRANCES.—The question whether the costs of the recent appeal to the House of Lords in the long-pending action of Lyle v. Richards, amounting to 4867. 0s. 9d., were to be paid to South Frances before the damages and costs of the action claimed from them by West Basset came before the Appeal Committee of the House of Lords on Monday. There were present the Lord Chancellor, Lord Redesdale, and other peers, and the taxing officer and other officials of the judicial department of the House. After hearing Mr. Finch, the solicitor of West Basset, and Mr. R. W. Childs, the London agent of South Frances, the committee decided in favour of West Basset—that the costs of the appeal were not to be paid until after the amount of the damages and costs claimed by them from South Frances had been ascertained by the reference agreed to at the trial. Mr. Finch contended that at the conclusion of the reference the costs of the appeal would be brought into account, and form a set-off, which view the committee confirmed.

MINING IN SHROPSHIRE.—The SHROPSHIRE MINING COMPANY.—In another column will be found some interesting details in connection with the development of this property. The exceptionally valuable quality of the ore has already given the mine a most favourable character; although not more than 18 months have elapsed since operations were commenced, an effective working plant and ample machinery have been provided, and explorations upon an extensive scale are in course of vigorous prosecution. The whole of the arrangements have been successfully carried out by Capt. John Kitto, under whose management Great Laxey was brought into a dividend-paying condition.

JOINT-STOCK COAL COMPANY.—The directors have announced that the share list for the allotment of the second issue of shares will close on the 25th inst. It will be needful, therefore, for persons wishing for an allotment to make an immediate application, as there is no doubt, from the fact of this company having never paid less than 10 per cent. dividend, that a large number of shares will be applied for.

MINERAL RIGHTS ASSOCIATION.—The meeting on Thursday passed off harmoniously, and the resolution for the reconstruction of the company was confirmed. The company will now be called the "Mining Association (Limited)," and the shares will be 2½ each (instead of 5½), 12 paid-up. Already about 150 of the shareholders have signed and returned the requisite authority for transferring their interest from one company to the other, and the whole arrangements will, no doubt, soon be completed. We understand that the company has good business to enter into immediately, and the present unusual absence of all excitement affords a most favourable opportunity for laying the foundation for large profits. Among the concerns being entertained is the gold mining property referred to in last week's Journal, rich specimens of the quartz from which can be seen at the office of the company.

THE MINERAL RESOURCES OF COLORADO.—The Paris Exposition has exhibited the largest collection of minerals that was ever produced, every civilised country in the world having contributed specimens of the best and richest of its minerals to this collection. This collection of ores has been most carefully selected, as it was known that they would be subjected to the scrutiny of the professors of the School of Mines of Paris, who are held in the very highest esteem by all mineralogical savants. Amidst all this competition for fame is a country little known in Europe, and which has only found a name in its own continent within the last six years, bearing away the gold medal for the richness and character of its ores. Colorado may be said to be the richest portion of the great western metallic zone; it has produced more bullion since the time of its discovery in the very small amount of country yet explored than the more southern portions of the range of the Rocky Mountains, which form the Cordilleras of Mexico and the Andes of South America, and this by appliances very unfit, so that much loss has been sustained in obtaining the treasures which are so largely disseminated throughout the matrices of the country. Mr. J. P. Whitney, who is a relative of the well-known professor of geology of that name, was wisely elected by the mining interest of this State to represent them as the commissioner for Colorado at the Paris Exhibition this year, and a more able representative could not have been found, which the "Schedule of Ores," containing "Information about the Region and its Resources," written by that gentleman, and distributed at Paris, will fully bear out. There are 25 selected specimens of these ores assayed, which produce the extraordinary average of 7 ozs. 11 dwts. 12 grs. of gold, and 221 ozs. 4 dwts. 19 grs. of silver to the ton of ore, the highest for gold being 55 ozs. 14 dwts. 14 grs., with no silver, and the highest for silver being 1511 ozs. 15 dwts. 4 grs., with no gold; the copper contained in them was not looked for. Some of these specimens, and a copy of the gold medal, have been forwarded to England by Mr. Whitney, and may now be seen in London, together with a plan of the Upper Union mining district, of which Empire City is the chief town, and the most important mining centre of that new country. The great value of this district is owing to the fitness of its climate, the abundance of both wood and water, and the ease with which supplies are now brought into this interior region by railroad from Omaha to Des Moines junction, which is now open to a distance of 517 miles, traversing the whole prairies from the Missouri to the Rocky Mountains.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The subjoined is a list of the places of meeting and the names of the presidents for the several sections at the Dundee meeting, to commence on Sept. 4, when Mr. W. Grove, Q.C., will resign the chair, and the Duke of Buccleugh assume the presidency:—A: Mathematical and Physical Science (High School), Prof. Sir W. Thomson, D.C.L., F.R.S., &c.—B: Chemical Science (High School), Prof. T. Anderson, M.D., F.R.S.E.—C: Geology (Panmure-street Chapel), Mr. A. G. Leake, F.R.S., F.G.S.—D: Biology (High School), Prof. Sharpey, Sec. R.S.—E: Geography and Ethnology (Albert Institute), Sir Samuel Baker, F.R.S.—F: Economic Science and Statistics (Euclid-street Chapel), Mr. M. E. Grant, M.P., M.A.—G: Mechanical Science (Watt Hall, Constitution-road), Prof. W. J. Macquorn Rankine, LL.D., F.R.S. The local secretaries are Messrs. Henderson, Anderson, and Glog (address, 21, Reform-street, Dundee), and Mr. George Griffith, M.A., is assistant-general secretary of the Association.

COLLIERY ACCIDENT IN AUSTRIA.—A terrible accident occurred a few days ago in a coal mine belonging to Baron Rothschild at Nahrlich Ostran. By a sudden explosion of air-damp, which no one living can account for, 52 persons out of 98 at work in the mine were instantaneously killed. Such accidents are of rare occurrence in this country, and are always made the subject of judicial investigation. Any neglect of duty or proper precaution on the part of overseers or other responsible persons is severely punished, but on this occasion those in charge of the works do not appear to have been to blame.

TRANSFER OF SHARES.—In the case of the National Marine Insurance Company, three shareholders, having "lost all confidence in the company," had arranged to transfer their shares to a person who was known to be insolvent and unable to pay calls, and though the Articles of Association gave the directors no discretion to refuse registration of transfers except where the transferee was a debtor to the company, the directors, in this case, refused to recognise the transfer. The Master of the Rolls held that, notwithstanding the absence of any provision to that effect, the directors had an inherent discretion to refuse registration of transfer under such circumstances as existed in this case.

ANALYSES OF COAL, CANNEL, MINERAL OILS, and all OIL PRODUCING MINERALS ARE UNDERTAKEN BY
A. NORMAN TATE, F.A.S.L., &c.
ANALYTICAL AND CONSULTING CHEMIST, AND CHEMICAL ENGINEER
(Author of "Petroleum and its Products," &c.),
MOLD, NORTH WALES.
Plans and estimates for oil and chemical works prepared, and their erection superintended.
Assays of metals and their ores carefully conducted.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, AUGUST 16, 1867.

COPPER.				IRON.				Per ton.	
Best selected, p. ton	£	s.	d.	Bars Welsh, in London	6	10	0	—	—
Tough cake and tile	78	0	0	Ditto, to arrive	6	10	0	—	—
Sheathing & sheets	81	0	0	Nail rods	7	0	0	7	10
Bolts	83	0	0	Do, in London	7	10	0	8	10
Bottoms	85	0	0	Do, ditto	7	10	0	9	10
Old (Exchange)	72	0	0	Hoops	8	10	0	9	12
Burra Burra	85	0	0	Sheets, single	9	5	0	10	0
Wire	0	1	0	Pig No. 1, in Wales	3	15	0	4	5
Tubes	0	1	0	Refined metal, ditto	4	0	0	4	0
	0	11	1	Bars, common ditto	5	15	0	6	0
				Do, mch. Tynor Tees	6	10	0	—	—
BRASS.				Do., railway, in Wales	5	10	0	6	0
Sheets	per lb.	9d.	10d.	Do., Swed. in London	10	5	0	10	10
Wire	"	8½d.	9½d.	To arrive	10	5	0	—	—
Tubes	"	10½d.	11d.	Pig No. 1, in Clyde	2	14	0	3	0
Yellow Metal Sheath. p. lb.	7½d.	—	—	Do. f.o.b. Tynor or Tees	2	9	6	—	—
Sheets	"	7d.	—	Do. Nos. 3, 4, f.o.b. do.	2	6	2	7	0
SPELTER.				Railway chairs	10	0	15	0	—
Foreign on the spot	£20	17	6	" spikes	11	0	12	0	—
" to arrive	£20	17	0	Indian Charcoal Pigs	7	0	0	7	10
ZINC.				in London p. ton.	7	0	0	7	10
In sheets	£27	0	0	STEEL.				Per ton.	
TIN.				Swed., in kegs (rolled)	14	5	0	—	—
English blocks	91	0	0	Do, (hammered)	15	0	0	—	—
Do., bars (in barrels)	92	0	0	Ditto, in fagots	16	0	0	—	—
Do., refined	94	0	0	English, spring	17	0	23	0	0
Banca	92	0	0	QUICKSILVER (p. bottle)	6	17	0	—	—
Stralts	£86	0	0	LEAD.				Per ton.	
TIN-PLATES.				English Pig, com.	19	15	0	—	—
IC Charcoal, 1st qua.	1	7	6	Ditto, L.B.	20	0	—	—	—
IC Ditto, 1st quality	1	13	6	Ditto, W.B.	21	15	0	—	—
IC Ditto, 2d quality	1	5	6	Ditto, ordinary soft	20	0	—	—	—
IC Ditto, 3d quality	1	11	6	Ditto, sheet	20	10	0	20	15
IC Coke	1	3	6	Ditto, red lead	20	15	0	21	5
IC Ditto	1	9	6	Ditto, white	27	0	—	0	0
Canada plates, p. ton	13	10	0	Ditto, patent shot	23	0	—	0	0
Ditto, at works	12	10	0	Spanish	19	5	0	19	10

* At the works, 1s. to 1s. 6d. per box less.

† A Derbyshire quotation: not generally known in the London market.

REMARKS.—The Metal Market has continued to present during the past week the same encouraging features as it did during the former one. It is very satisfactory, also, to find that a much greater feeling of confidence is springing up as to the recovery of the metal trade from its long period of depression, and also as to the improvement in commercial affairs generally, and that before long we shall enter upon a course of much greater activity and vigour, which we trust will speedily lead to the return of our former state of commercial prosperity. Orders are still coming forward with much greater regularity, and buyers seem now less afraid to enter into pretty extensive operations, and some considerable purchases have been made during the week. This fact alone shows that the metal trade is recovering; and, though it may be only gradual, yet we have every reason to believe that it will be permanent, and we hope soon to find that speculators will be enabled to enter into operations with something like confidence, as this will be sure to give a decided impetus to the market, and render it still more lively and encouraging. Prices, also, seem now to be on the move upward, and we may safely calculate that most metals have now seen their lowest point, and will gradually creep up until they attain that which will be far more remunerative than they have been for some time past. Altogether, the appearance of the metal market is more gratifying than it has been lately.

COPPER.—The market for this metal has become decidedly better during the week; the demand has improved, and business to a much greater extent has been done; and, altogether, the general tone has been much steadier. Transactions have taken place in tough cake at 77. 10s., and in manufactured at 80½, the quotation for which is now 81½, holders declining to sell under this price. Wallaroo is now quoted at 82½, 10s. to 83½, Burra at 84½, Chili bars at 70½, and a small lot at 71.

IRON.—In Staffordshire the demand continues much about the same as last week, and a few orders are arriving from India, the United States, and the Continent. There are more railway orders in the market, and the large contract for rails which is to be executed by native works for the Russian Government, will for a long time prevent the competition for other kinds of iron. Should the recent improvement in railway property continue, we may expect further orders on account of this kind of iron. In Welsh the slightly improved feeling which has been manifested in the trade is, so far, maintained, and prospects keep, upon the whole, rather encouraging. Foreign buyers are making more enquiries than usual, and there is great hope that the requirements of India, America, and the Continent will gradually increase. The exports continue principally to Russia, the United States, and India, and there are also some Dutch contracts in course of execution. It cannot be said that home business has as yet moved to the extent anticipated, the slow progress made by the railway companies in arranging their financial difficulties having materially interfered with the giving out of fresh orders. Certain quantities of bars are somewhat more freely purchased, and pigs are selling better. In Swedish iron business remains very fairly active. In Scotch pig-iron the amount of business has been only limited, and the price has remained without variation at 53s. cash.

LEAD.—The demand continues steady, and prices generally are well maintained.

TIN.—Early in the week the market for Straits became further depressed, and business was done at 85½, 10s., but latterly a better feeling has arisen, and prices have somewhat recovered, business having been done at 86½, cash, 86½, 10s. prompt, one month, and 88½ for arrival. The present appearance of the market is encouraging.

SPELTER.—The market has remained unusually quiet during the week, and no transactions of importance have taken place. The price on the spot has undergone no change.

TIN-PLATES maintain their position, and the works continue in regular employ.

STEEL.—Business in foreign is much more active.

QUICKSILVER.—Only in limited demand.

BIRMINGHAM, AUG. 16.—Bylands' "Iron Trade Circular" says:—Pigs firm; in moderately steady demand. Finished iron advancing, and in request, at prices slightly nearer to fixed rates. Trade cheerful; market not lively.

MIDDLESBROUGH, AUG. 15.—The "Iron Trade Review" states:—Rail-makers fairly occupied; plates in only moderate demand: the general iron trade inactive, but looking up. Pigs increasing in makers' hands; prices unchanged. Warrant stores now stand at 75,133 tons, but nothing is being done in warrants.

The settlement of the fortnightly account in the MINING SHARE MARKET took place on Thursday, and was comparatively light, the only transactions of any particular amount having been in Chontales, Prince of Wales, Great Retallack, North Crofty, West Chiverton, Chiverton Moor, Great Wheal Vor, Great Laxey, and a few other mines. The market generally continues dull, as at this time of year people are more intent on holiday making than in speculating or investing in shares. There is no sale of copper ores this week, and, consequently, no change in the standard, but copper is said to be rising. West Chiverton shares have advanced to 66, 68; a fine discovery has been made in the 110, west of Hawkes; this end has been driven 8 fathoms west on the south part of the lode, and at this part the agents commenced to cross-cut north, and intersected the north part of the lode, and so far as cut into (2 feet) it is worth 50½ per fathom; this is independent of the north part, which is worth 30½ per fathom. The meeting will be held on the 23d instant, and a dividend, we presume, of 2½ per share will be declared. Prince of Wales shares have been flatter, through market operations, and the purchases of a few weak "bulls" for last account, and leave off 50s., 52s., ex dividend. At the meeting, held on Tuesday, the accounts for receipts and expenditure since the last meeting showed a cash balance in hand of 2954½, 12s., and a dividend of 1600½ (2s. 6d. per share), was declared. The ores sold since the last meeting—March ore, 9697, 3s. 7d.; April ore, 11854, 13s. 11d.; May ore, 9134, 9s. 11d.; total,

30687. 7s. 5d.—left a profit on the three months' working of 16707. 17s. 2d. The statement of assets and liabilities, estimating the June ores, last sampled, with June cost paid, showed 35487. 11s. 6d. (or 29487. 11s. 6d., after payment of dividend) in favour of the company. The details of the meeting will be found in another column, and the chief points of interest are—1. The agent declared most positively that, even taking the ends at their low value, the ores discovered monthly are more than are being taken away.—2. The reserves he estimated at 18,000, to 20,000.—3. The north lode has not been cut, and he fully expects a good lode here, as well as an improvement in the present ends. Since the meeting, the first cross-course has been cut through in the 55 fm. level west; the lode is very large, composed of capels, quartz, pench, mundic, and yellow copper ore intermixed. As a course of ore has not been seen immediately, the shares have been put down on the market, but it is explained that in the 45, directly over where just cut in the 55, the lode was found poor, and continued so for two or three fathoms, and then became very rich. The ore last sampled, and for sale next week, is estimated to produce 850½, at a cost of less than 400½; the produce of this parcel not being so rich by 1 per cent. as the previous sale. Chiverton Moor, 4½ to 5½; Chontales Gold, 4½ to 4½; Clifford Amalgamated, 6 to 6½; East Basset, 14 to 16.

North Wheal Crofty, 3½ to 4; the present pursuer of the mine has issued a pamphlet to the shareholders, explaining that when he took office he found the accounts represented a profit of 841½, on the four months' working to the end of December, but, on a thorough investigation of the books, he found so many errors and irregularities that there is now a balance against the mine of 8687. Everything, however, has been put in proper order, and "the entire system changed." The mine is looking well for tin, and has fair prospects for copper. The agents state they had at the meeting fully 10 tons of tin broken underground, and, according to the present prospects of the mine, they calculate on showing a profit at the next meeting of 500½. East Caradon, 4½ to 5½; East Carn Brea, 2½ to 2½; East Lovell, 6½ to 7; East Wheal Grenville, 1½ to 2; Frontino and Bolivia, 8s. to 9s.; Great Laxey, 17 to 18; Great Retallack, 4½ to 4½; Great Wheal Vor, 17 to 18; Marke Valley, 4½ to 5; North Treskerby, 25s. to 27s. 6d.; West Prince of Wales, 10s. to 12s. 6d.; Providence Mines, 27 to 28; South Caradon, 350 to 360; South Condurrow, 10s. to 12s. 6d.; South Frances, 27½ to 30; West Basset, 14s. to 16s.; West Caradon, 8½ to 9; West Seton, 145 to 150; at the meeting a dividend of 3½, 10s. per share was declared. Wheal Seton, 105 to 110; at the meeting a dividend of 2½, 10s. per share was declared. Wheal Basset, 65 to 70; Wheal Chiverton, 6½ to 7; Wheal Crebor, 8s. to 10s. (call paid); Wheal Grenville, 7s. 6d. to 12s. 6d.; Wheal Mary Ann, 14 to 15; Miners, 170 to 180; at the meeting an increased dividend of 11,250½ (6½, 5s. per share) was declared, and the mine looking well. The reserves are stated to be very large. Mineral Rights, 12s. 6d. to 15s.; the resolution to reconstruct the company has been confirmed, and a large body of the shareholders, we understand, have already transferred from one company to the other, thus at once relieving themselves of the heavy liability of 4½ per share. The new company is to be called the Mining Association (Limited). East Russell shares have advanced; there is an improvement in the 130 fathom level cross-cut north, east of slide, and one or two good points to come off.

On the Stock Exchange during the week both Foreign and British Mining Shares have been in more request, and prices are firmer, at the following quotations:—St. John del Rey, 56 to 58; Don Pedro, 1½ to 1½; Anglo-Brazilian, par to ½ prem.; Chontales, ½ to ½ prem.; Anglo-Italian, ½ to ½ prem.; Pestarena, par to ½ prem.; Port Phillip, 1 to 1½; Rossa Grande, ½ to ½; Frontino and Bolivia, ½ to ½; Kapunda, ½ to ½; Cape Copper, ½ to ½; Alamillos, ½ to ½; United Mexican, 1½ to 2; Panulillo Copper, ½ to ½; Great Wheal Vor, 17 to 17½; West Chiverton, 66 to 68; Devon Consols, 390 to 410, ex div.; West Seton, 145 to 150, ex div.; Wheal Seton, 105 to 110, ex div.; East Caradon, 4½ to 5½; Providence, 27 to 29; New Seton, 45 to 50; East Basset, 12 to 14; Wheal Buller, 23 to 25. North Crofty, 3½ to 4; the mine is favourably reported on. West Chiverton Mine is looking well; an improvement has taken place in the 110, or bottom level, equal to a new discovery by cross-cutting; this part of the lode is valued at 60½ per fm., and cannot be too highly estimated, as it is in the bottom of the mine. At Westminster Mine, the lode in the shaft is worth 2½ tons per fm., and the 70 end east is worth 2 tons, and improving; the new engine is keeping the water, working only two strokes per minute, and is equal to any emergency.

IRISH MINE SHARE MARKET.—A fair amount of business has been done in Mining Company of Ireland and Wicklow Copper Mining Companies shares, ending in 16½, 10s. being paid for the former (7½ paid), and 20½ for cash account for the latter (2s. 10s. per share paid), being an advance of 2s. 6d. on our last week's quotations. Connoisseur shares have fully recovered their recent several small declines, having gone up since yesterday week from 11s. 6d. to 13s., at which price they leave off in considerable request. Banking shares had the advantage of a fair business, but sellers rather preponderating. Railways, however, are attracting special attention, and have, in most instances, considerably improved in price. Apropos of the evidence given before the Royal Commission on Irish Railways, and quoted in our last, in order to show how our mineral and other resources are obstructed by nearly prohibitory tariffs, our readers will gain much confirmatory and valuable information in perusing an able article on "The Irish Railways" in the Saturday Review of Aug. 10, which, if space will permit us, we propose to copy in toto in next week's Journal. The existing boards of Irish railways, who fear to be absorbed by a radical scheme for promoting our country's welfare by opening up her natural resources, are already bestirring themselves, as might be expected, to keep their snug sinecures, with a hope to improve them by obtaining Government loans to help them to enlarge their functions and prospectively their remuneration. The initiative in this direction has been taken by the directors of the Dublin, Wicklow, and Wexford Railway Company in their report to the shareholders for the meeting to be held on Monday next, in which, though professing offering "no opinion," they clearly point out their wish that the State might become the creditors of all Irish lines to the full extent of their parliamentary borrowing powers, which it is estimated would require only seven millions! The fact of this suggestion coming from a board which for several years managed to keep the most profitable traffic, the minerals from the Avoca Mines, off their line and on the common road, is, in itself, a sufficient proof that nothing short of the purchase and a concentrated management of all the Irish railways by Government will render the iron highways effectually available for the prompt development of our country, and that, in the concluding words of the Saturday Review, "No one can doubt that a purchase is better economy than any system of subsidies, as that the moderate fares which Government, as its lessees, could afford to take would be infinitely more conducive to the general welfare than the wretched plan of successive petty loans, by which it has been mainly attempted to foster and sustain the railway enterprise of Ireland. If the railway companies themselves can resist the temptation of preying upon such a purchaser as the Government, we have no doubt that the enquiries about to be instituted will result in a transaction from which, perhaps, Ireland will hereafter date her tide of prosperity."

The GLASDIE MINING COMPANY (Limited) has been constituted with a capital of 30,000. The mine is situated near Dolgelley, and it has been opened at the surface to a depth of about 14 fathoms, and the product—copper ore—is found in clay-slate, with bands of elvan running through it. The sett comprises about 120 acres, the prominent feature in which is the oval-shaped hill, in which the excavations have been made, and which, at the points that have been exposed, is thickly charged with copper and mundic. The mine has been reported on by Capt. Nancarrow, Thomas Martin, and J. Remfrey. Unlike the general copper deposits in Wales (which are found in quartz), the Glasdie ore is in the congeal clay-slate rock, and resembles, according to one report, that of the Parys Mountain in Anglesea. No pumping-machinery is requisite, facilities existing for working to a depth of 70 fathoms. There is an abundance of water-power; and it is proposed to treat the ores (which are immediately available) by an effective dressing system, capable of reducing a large mass of stuff in an economical way. The purchase-money, 16,000½ (with the exception of 1500½), is in shares. An opening of

about 80 fathoms in length has been made, and some dressing-machinery already exists on the property.

At Dolcoath Mine meeting, on Monday, the accounts showed a credit balance of 1334l. The profit on the two months' working was 1071l. A dividend of 1074l. (3l. per share) was declared, and 260l. carried to credit of next account. BILLY, a stone-breaker has been successfully introduced as a substitute for hand-spalling.

At West Wheel Seton meeting, on Tuesday, the accounts showed a credit balance of 2544l. 15s. 6d., and a dividend of 1400l. (3l. 10s. per share) was made, and the balance of 1144l. 15s. 6d. was carried to the credit of the next account. Mr. P. P. Smith gave notice (with the unanimous assent of the shareholders present) that he would at the next meeting cause a resolution to be moved, in consideration of the valuable services of the purser, his salary be increased from 8l. 8s. to 10l. 10s. per month, to take effect from that day. Captains Charles Thomas, Malachi Bath, and John Jennings, say that "the mine is opening up very satisfactorily, rather beyond our most sanguine expectations."

At East Lovell four-monthly general meeting, yesterday, a dividend of 6s. 6d. per share was declared.

At the Alderley Edge Mining Company general meeting, held at the mines, on Wednesday, July 31, a dividend of 5s. per share was declared, making the amount of dividend per share now paid 8l. 7s. 6d.

At the Prince of Wales Mine meeting, on Tuesday (Mr. J. Y. Watson, F.R.S., in the chair), the accounts showed a profit on the three months' working of 1670l. 17s. 3d., and a cash balance in hand of 2954l. The assets over liabilities, charging costs and returns to end of June, amounted to 3458l. 11s. 6d. A dividend of 2s. 6d. per share was declared. The reserves are estimated to be worth from 18,000l. to 20,000l.; and it is stated that, although the ends at present are not so rich as at the date of the last meeting, more ore is being discovered than taken away, thereby increasing the reserves. The details will be found in another column.

At Wheel Crebor quarterly meeting, on Thursday, the accounts showed a credit balance of 89l. 14s. 3d., and a balance of liabilities over assets of 493l. 5s. 5d., which includes three months' working cost. A call of 1s. 6d. per share was made. The agent's report appears in our Mining Correspondence.

At the North Wheel Chiverton meeting, to be held on Monday, the accounts to be presented will show a credit balance of 4344l. 3s. 1d. The ground sunk and driven during the quarter ending June was 56 lms. 5 ft., and the average cost of driving was 3l. 12s. 4d. per fm.

At New Wheel Lovell Mine meeting, on Aug. 7 (Mr. F. Hill in the chair), a call of 3s. per share was made. Mr. Charles Bawden having been invited to undertake the management of this mine, his services were accepted at a salary of five guineas per month. Capt. Frisk reported that they have sold 4 tons 11 cwt. 2 qrs. 2 lbs. of tin during the past three months, which realised 2s. 6d. The prospects throughout the mine generally are very good, and, as the ground in all points of operation is getting easier, they have every reason to expect the lodes will improve. Number of hands employed, 38.

At North Grampier Mine meeting, on Aug. 10, the accounts showed a debit balance of 401l. 15s. 9d. A call of 13s. 6d. per share was made. Captain Pascoe's report says—"We have nine pitches working on tribute for tin and copper, varying from 9s. to 13s. in 12."

At Wheel Margery meeting, on Aug. 6 (Mr. Samuel Higgs in the chair), the accounts showed a debit balance of 1053l. A call of 30s. per share was made. The committee reported that very few applications have been made for the new shares proposed to be issued. The agent reported that the prospects at the bottom of the mine were never better, but sufficient ground had not been laid open to be self-supporting.

At the Pendean Consols Mine meeting, on Monday, the accounts for the three months ending June showed a loss of 633l. 6s. 10d. The assets exceeded the liabilities by 308l. 12s. 2d. A call of 4s. per share was made. The agent's report called attention to the discovery of tin in the bottom levels north, the 154 end having yielded about 1 ton of tin during the past month; these being still in granite (the junction having taken almost an horizontal course), there is now every likelihood of their cutting the Great Pendean lode at these levels in granite, and should the present favourable indications continue, they think there is a very fair chance of meeting with a deposit of tin at the junction, when they trust they will be rewarded for all their patience and outlay.

The Leeswood Cannel and Gas Coal Company (Limited) meeting will be held in Birmingham, on Monday. The accounts for the half-year show a credit balance of 2433l. 18s. 4d., notwithstanding the extremely depressed state of trade throughout the country, the high price of labour, and the almost total collapse of the oil manufacture. The Cannel in the present workings has continued disturbed in the northern drivings since the date of the last report, and thereby added greatly to the cost of getting; but the boundary of the range in question will, before long, be reached, and the yield materially increased in the return workings. The dividend recommended is 1s. 6d. at the rate of 5 percent. per annum, and that the surplus be applied in extinguishing the suspense account, carrying a balance forward. The important subject of the development of the eastern portion of the company's property has occupied the attention of the board, and previous to the next half-yearly meeting they will have matured the necessary arrangements, and will fully explain them in their report. The coal sales to Lee Wood and Plas-y-Mynydd was 312 tons 3 cwt., valued at 1449l. 11s.

At the Port Phillip and Colonial Gold Mining Company meeting, on Thursday next, it will be proposed to distribute 1s. per share on account of the tenth dividend. The profit upon the half-year's working was 4798l. 1s. 7d.; and after paying the proposed dividend, and appropriating 487l. (10 per cent.) to the reserve fund, there remains 1881l. 18s. 6d. to carry forward. The reserved fund amounts to 2316l. 4s. New 3 per Cent. annuities.

At the Worthing Mining Company meeting, on Monday (Mr. C. Legg in the chair), the report of the directors and balance-sheet was received and adopted. Notwithstanding the low price of copper during the past year, the property has been successfully managed as not only to meet its costs, but to leave a fair margin of profits. Details in another column.

The Bank of England returns for the week ending on Wednesday evening showed a further important increase in the reserve. In the ISSUED DEPARTMENT there is shown an increase in the "notes issued" of 244,975l., represented by a corresponding increase in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there is shown an increase in the "public deposits" of 318,354l.; in the "other deposits" of 90,521l.; in the "seven day and other bills" of 13,244l.; and in the "rest" of 4556l.—426,705l., which, added to 29,454l., the decrease in the "other securities" on the asset side of the account, shows an increase in the "reserve" of 466,159l.

The spirited contest maintained by Messrs. Oakes and Peel, as representing the Defence Association of shareholders, against the liquidators of Overend, Gurney, and Co., is now terminated. The House of Lords have unanimously held that, however fraudulent may have been the prospectus, and the representations by which the shareholders were induced to apply for shares, the parties on the register were liable as contributories in the liquidation. All losses which the unfortunate shareholders may have hitherto had of getting rid of the calls are thus at an end. The decision is one of the utmost importance as regards the working of the Limited Liability Act of 1862. The remarks made by the three judges upon the conduct of the directors in issuing the prospectus, while keeping back from the public the material facts, which were afterwards disclosed by the defence association, were very severe. No more favourable case for the shareholders getting rid of their liability can again occur, but the appellate tribunal has given such a judgment as most effectually protects the rights of creditors, and those who deal with a joint-stock company formed under the Limited Liability Act. However, the low price of copper during the past year, the property has been successfully managed as not only to meet its costs, but to leave a fair margin of profits. Details in another column.

At the China Steamship and Labuan Coal Company (general) meeting, on Thursday (Sir James D. H. Elphinstone, Bart., M.P. in the chair), it was mentioned that the directors had had an interview with the Under-Secretary for Colonial Affairs, at which Mr. Pope Hennessy, the new Governor of Labuan, was present. The Chairman felt certain, from what had taken place, that instead of the Government of Labuan thwarting this company, as had hitherto been the case, a new era would be established in that respect. A resolution was passed congratulating the shareholders on the satisfactory reports which had been communicated to them from Labuan, and the excellent prospects which (from these reports) seemed to be in store for the future of the company. A statement of accounts showed—Paid-up capital, 328,000l.; vessels (estimated value), 44,000l.; Labuan property, 22,068l. 3s. 8d.; debts owing to the company, 16,129l. 11s. 2d.; arrears of calls on existing shares, 30,013l. 10s.; arrears of calls on forfeited shares, 11,453l. It was also resolved that the liquidators be requested to carry out the recommendation made in the reports, which was also carried, as well as an addendum to the effect that no further call ought to be made until the ships are sold.

On the Stock Exchange a moderate amount of business has been transacted in mining shares during the week. The following prices were officially recorded in British Mining Shares—North Wheel Croft, 3 1/4, 4 3/4; Great Wheel Vor, 17 1/4; West Chiverton, 66 1/4; Providence, 28. In Colonial Mining Shares the prices were—Vancouver, 2; Scottish Australian, 15-16th, 1, 1 1/16th; Port Phillip, 1 1/4, 1; Cape Copper, 7 1/4. In Foreign Mining Shares the prices were—Anglo-Brazilian, 9-16, 9-16; Chontales, 4 1/4, 4 11-16; Don Pedro, 1 1/4, 1 1/16, 1 1/16, 1 1/16, 1 1/16; Pestarens, 2 1/2, 2 11-16; Rossa Grande, 7-16, 7-16; Linares, 11-16, 1 1/4; United Mexican, 1 1/4.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond (Aug. 16) write—There has been more business doing, and the advanced prices asked have been more readily paid. Some of the English smelters have shown themselves desirous of being provided with furnace material, rather than being found short of stock in the present uncertain state of the market. The principal transactions in Chili produce since our last have been about 1000 tons ore, at 13s. 10d. to 14s. per unit; 600 tons of regulus, at the latter figure; and 150 tons of bars, at 68l. 10s. and 69l. per ton. For bars, 69l. 10s. is now asked, and for ore and regulus 14s. 10d. per unit. In English copper the transactions have not been large, and quotations are wide, as "spot" can be had at a difference of 2l. per ton less, in some instances, than forward delivery. Business is limited in the foreign, at previous rates, which were already higher in proportion than English. The mail from Chili brings advices of about 1700 tons of

copper produce having been chartered for, half in bars and the remainder in ores and regulus, with a list of sales amounting to nearly the same quantity of fine copper, prices in Valparaiso having slightly improved, and freights being rather higher. The general feeling in the market here is better, and the tendency on the part of holders of copper (who can conveniently do so) is to keep it at present, in the hope of a further improvement being established.

COAL MARKET.—The fresh arrivals this week number 109 ships. Household coals have fallen off in demand very considerably, and we quote a reduction in price of fully 1s. 6d. per ton. Hartleys have retained their position, and are firm. Hetton Wallsend, 20s.; Haswell Wallsend, 20s.; South Hetton Wallsend, 19s. 9d.; Braddyl's Wallsend, 18s. 3d.; Eden Main, 18s.; Tunstall Wallsend, 17s. Un-sold, 10 cargoes; 70 ships now at sea.

Sale of Engines.
CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.

THE COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, do hereby give notice that, on TUESDAY, the 28th September next, at Two o'clock, they will be READY TO RECEIVE TENDERS for the PURCHASE of SEVERAL LOTS OF ENGINES.

Taken from Her Majesty's ships Zephyr, Styx, Surprise, Encounter, Intrepid, Dapper, Viper, Sparrow, Arrow, Russell, Snake, and Hawke, lying in Devonport Dockyard.

Catalogues and conditions of sale may be obtained here and at Her Majesty's Dockyard at Devonport.

Persons wishing to become purchasers must apply to the Admiral Superintendent at Her Majesty's Dockyard at Devonport for notes of admission to view the same.

No tender will be received after Two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing, to make a deposit of 25 per cent. on the amount of his purchase.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Purchase of Engines," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House.

By order,
ANTONIO BRADY,
Registrar of Contracts and Public Securities.

Contract Department, Admiralty, Somerset House, Aug. 12, 1867.

To Inventors of Patent Fuel Apparatus.
INVENTORS OF METHODS FOR UTILISING SMALL COAL by COMPRESSION, or otherwise, are invited to SEND PARTICULARS OF THEIR INVENTION to the COAL TRADE OFFICE, NEVILLE HALL, NEWCASTLE-UPON-TYNE. THEO. WOOD BUNNING, Secretary.

To the Inventors of Safety Hooks and Cages.
INVENTORS OF SAFETY APPARATUS FOR MINES are requested to SEND PARTICULARS OF THEIR INVENTIONS to the SAFETY CAGE COMMITTEE of the MINING INSTITUTE, NEVILLE HALL, NEWCASTLE-UPON-TYNE, and to state where the same are in operation. THEO. WOOD BUNNING, Secretary.

BOLCKOW, VAUGHAN, AND CO. (LIMITED).

WANTED, a COMPETENT RESIDENT MINING ENGINEER, to TAKE THE MANAGEMENT of the COLLIERIES, MINES, and QUARRIES belonging to the above firm in the BISHOP AUCKLAND DISTRICT, who must give the whole of his time to the services of the company.

Applications, stating salary expected, and to whom references can be made, together with copy of testimonials, to be addressed to the secretary, at the chief offices, Middlesbrough-on-Tees, on or before 19th August.

WANTED, a SITUATION as SURVEYOR or ASSISTANT MANAGER at a COLLIERY. Good references.—Apply to "H.D.S." MINING JOURNAL office, 26, Fleet-street, London, E.C.

WANTED, a few GENTLEMEN to FORM a COMPANY, in connection with the Advertiser, to WORK a SILVER-LEAD SETT in one of the RICHEST LOCALITIES in CORNWALL. A bona fide speculation: 21 years' lease.

For inspection and general information, address "C.W.," Post-office, Penzance.

WANTED, by a Copper Company, a YOUNG MAN, who has a practical knowledge of Chemistry and Metallurgy, to TAKE CHARGE OF SMELTING WORKS.

Apply, by letter, stating age and giving references, to letter box 16, Post Office, Birmingham.

WANTED.—A RE-ENGAGEMENT as COLLIERY MANAGER. Many years' experience and first-class testimonials. No objection to go abroad.—Apply to "H.M.," MINING JOURNAL office, 26, Fleet-street, London.

COLLIERY MANAGER, OR VIEWER.—WANTED, by a highly respectable Young Gentleman, a SITUATION as above. First-class references from present employer.

Address, "Delta," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO CAPITALISTS.—WANTED, a PARTNER in, or a LOAN upon, a VALUABLE COLLIERY near CARDIFF, by the Ground Landlord and Proprietor.

For particulars, apply to Messrs. BELLIS and MARCHANT, Accountants, 6, Martin-lane, City.

THE ADVERTISER, who has had many years' experience at an extensive IRONWORKS in SOUTH WALES, SEES an ENGAGEMENT as MILL FOREMAN or MANAGER. First-class reference.

Address, "B.," Lothian House, Albert-park, Ashley-road, Bristol.

COKE OVEN VAPOURS UTILISED AND CONVERTED INTO OIL.—An INTEREST in this VALUABLE PATENTED INVENTION to be transferred upon unusually advantageous terms. The saving of oil to COKE MANUFACTURERS is estimated at nearly A MILLION TONS annually. No money consideration required.

Also FOR SALE, MINERAL OIL, LAMP BLACK, and TAR DISTILLERY. Price very moderate. Shale costs 5s. per ton, yielding 30 gallons of oil. Working capital required, £1000; annual profit, £800. Products saleable in the immediate neighbourhood of works.

Address, "Chemical," MINING JOURNAL Office, 26, Fleet-street, London.

TO BE DISPOSED OF, THE WHOLE OR PART of a SMALL PROGRESSIVE COLLIERY. Several seams have been discovered, and a good price is realised for the coal.

For particulars, apply, by post, to "J.H.," "Friends' Institute," 12, Blagovest-street Without, E.C., London.

TO BE SOLD, CHEAP, a PORTABLE ENGINE of 14-horse power, double cylinder, of first-class construction, workmanship, and material. Winding gear to order. SECOND-HAND PORTABLES FOR SALE.—Apply to Messrs. BARROWS and CARMICHAEL, engineers, Banbury, Oxford.

FOR SALE.—A LIFT of 16-in. PUMPS and BOTTOMS, all in excellent order; a quantity of hammered iron STRAPPING PLATES, all in excellent condition. Also, a 40-in. PUMPING ENGINE, only worked a few months; and a WATER-WHEEL, nearly new.—Application to Nicholls, MATHEWS, and Co., Bedford Ironworks, Tavistock.

ASSAY OFFICE AND LABORATORY.
No. 2, CROWN CHAMBERS, CROWN COURT, THREEDNEEDLE STREET, CONDUCTED BY W. T. RICKARD, F.C.S., &c. (Late MITCHELL and RICKARD).

Assays and analyses of every description of mineral and other substances, manures, &c. Instructions in assaying, and the most improved methods of reducing gold, silver, and other metals.

MINING PROPERTIES INSPECTED AND REPORTED ON.

M. R. THOMAS THOMAS, ASSAYER, &c., COPPER ORE WHARVES, SWANSEA.

M. R. J. S. MERRY, ASSAYER and ANALYTICAL CHEMIST, SWANSEA.

SNAEFFELL MINING COMPANY (LIMITED). Notice is hereby given, that the REGISTERED OFFICES of the company have been REMOVED from No. 12, Old Jewry Chambers, E.C., to No. 6, SHERBOURNE LANE, KING WILLIAM STREET, LONDON, E.C., and that Mr. HENRY THOMPSON has been APPOINTED SECRETARY of the company in lieu of Mr. Thomas Thompson.

All letters, &c., for the London secretary, to be addressed to No. 5, Sherborn-lane. By order of the Board, G. W. DUMBELL, Chairman.

August 15, 1867.

LANFAIR GREEN AND BLUE SLATE QUARRY, COMPANY (LIMITED).—Manager, T. HARVEY, Esq.—TO BE SOLD, FORTY SHARES, at £1 per share. No calls.—Address, "A.B.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

NOTICE.—CAPT. S. M. RIDGE, of LLANIDLOES MONTGOMERYSHIRE (late manager of the Brynastig and Cwm Ffion Mines, and others, in Shropshire and Wales), is NOW OPEN to INSPECT and faithfully REPORT UPON ANY LEAD MINE in either of these localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. RIDGE, Llanidloes, Montgomeryshire.

NICHOLLS, MATHEWS, AND CO., ENGINEERS, BEDFORD IRONWORKS, TAVISTOCK. MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the MANUFACTURE of our BOILERS, which have been tested by most of our leading engineers. PUMP WORK CASTINGS of EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS of ANY SIZE. CHAINS made of the best iron, and warranted. MINERS' TOOLS and RAILWAY WORK of EVERY DESCRIPTION. ALL ORDERS FOR ABROAD RECEIVE their BEST ATTENTION. NICHOLLS, MATHEWS, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.

Messrs. NICHOLLS, MATHEWS, and Co. have always a LARGE STOCK of SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

PATENT FLEXIBLE TUBING AND BRATTLE CLOTH FOR MINES, MANUFACTURED BY ELLIS LEVER, PATENTEE, WEST GORTON WORKS, MANCHESTER.

WILLIAMS'S PERRAN FOUNDRY COMPANY, PERRANARWORTH, CORNWALL. MANUFACTURERS OF STEAM PUMPING and EVERY OTHER KIND of ENGINES, together with BOILERS, PUMP CASTINGS, and MINING TOOLS of every description, of the very best quality. Estimates given for the supply of any amount of machinery.

London Agent.—Mr. EDWARD COOKE, 76, Old Broad-street, London, E.C.

RAILWAY CARRIAGE COMPANY (LIMITED) ESTABLISHED 1847. OLDBURY WORKS, NEAR BIRMINGHAM. MANUFACTURERS OF RAILWAY CARRIAGES and WAGONS, and EVERY DESCRIPTION of IRONWORK.

Passenger carriages and wagons built, either for cash or for payment over a period of years. RAILWAY WAGONS FOR HIRE. CHIEF OFFICES.—OLDBURY WORKS, NEAR BIRMINGHAM. LONDON OFFICES.—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

THE BIRMINGHAM WAGON COMPANY (LIMITED) MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed especially for shipping purposes. Wagons in working order maintained by contract.

WAGON WORKS.—SMETHWICK, BIRMINGHAM. * Loans received on Debenture; particulars on application. London Agent.—Mr. E. B. SAVILE, 67, Victoria-street, Westminster, S.W.

STAFFORDSHIRE WHEEL AND AXLE COMPANY (LIMITED). MANUFACTURERS OF RAILWAY CARRIAGE, WAGON, and CONTRACTORS' WHEELS and AXLES, and other IRONWORK used in the CONSTRUCTION of RAILWAY ROLLING STOCK. OFFICES AND WORKS, HEATH STREET SOUTH, SPRING HILL, BIRMINGHAM. LONDON OFFICE.—118, CANNON STREET, E.C.

MR. LEDWARD, CHESTER, has FOR SALE a few SHARES in the TRELOGAN and GLEN ALUN LEAD MINES, at a small discount. An opportunity of acquiring shares in such valuable properties seldom occurs, except at very high premiums; the returns of ore (which have for some time covered the cost) are increasing every month; and the mines are certain, ere long, to pay permanent dividends.

WANTED, TO PURCHASE, SHARES in the following MINES:—RHODESMOR, BRYN GWIOG, WESTMINSTER.

M. R. T. L. COTTINGHAM, MINING ENGINEER, VIEWER, AND AGENT. COLLIERIES, MINES, QUARRIES, and MINERAL PROPERTIES INSPECTED, SURVEYED, VALUED, REPORTED ON, AND MANAGED. BORINGS, &c. CONDUCTED.

OFFICES.—No. 4, WREXHAM STREET, MOLD. Agent for the National Steam Boiler Insurance Company (Limited). Leases of several good Coal, Lead, and Slate Properties for sale.

JOHN HOCKING AND SON, ENGINEERS, REDRUTH. CALL the ATTENTION of COLLIERY PROPRIETORS and others to the present favourable opportunities for the purchase of second-hand CORNISH PUMPING ENGINES and BOILERS at cheap rates. Plans, valuations, removal, &c., of every description of mining machinery undertaken.

FOR SALE, ONE superior 30 in. DOUBLE ROTATORY ENGINE.

MANCHESTER, AND WEST END OF LONDON. MR. W. HANNAH, MINING, SLATE QUARRYING, INSURANCE, AND GENERAL SHAREBROKER. ROYAL INSURANCE BUILDINGS, KING STREET MANCHESTER; and 419, STRAND, LONDON, W.

INSTANTANEOUS COMMUNICATION with the STOCK and MINING EXCHANGES, avoiding the delay and annoyance of visiting the City to ascertain prices. A Monthly Investment Circular on application.

LEAD ORES.

Date.	Mines.	Tons.	Amount.	Purchasers.
Aug. 10	Ile of Man Mining Co.	100	£23 7 0	Sheldons, Bush, & Co.
	Treveltha	32	22 10 0	Trefry's Trustees.
	ditto	11	13 10 0	R. Nichell and Son.
	Trelawny	58	24 17 0	Sheldons, Bush, & Co.
	ditto	26	5 10 0	Sims, Williams, & Co.
	ditto	25	5 10 0	Burry Port Co.
12	Frongoch	65	12 3 0	Runcorn Smelting Co.
	ditto	65	12 0 0	ditto
	East Darren	75	16 1 0	Sheldons, Bush, & Co.
	Goginan	36	17 1 0	ditto
	Cwm Eriaf	62	16 0 0	Burry Port Co.
15	Whitefell	60	12 0 0	Washington Co.
	Plymilton	40	12 0 0	Weston & Collingborn.
	Frank Mills	100	13 0 6	Trefry's Trustees.

BLEND.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Aug. 7	Great Laxey	100	£3 17 6	S. Kenrick and Son.

BLACK TIN.

Date.	Mines.	Ts. c. q. lbs.	Price p. ton.	Amount.	Purchasers.
Aug. 7	Mervyn Hutchings	4 10 3 2 1/2	£25 2 0	£250 13 1/2	Cardenas.
	9-W. Trefyenna.	1 8 3 14	50 10 0	72 18 2	Danbar.
10	Wheal Uny	9 1 7	50 5 0	457 1 1/2	Bisscoe Co.

COPPER AND COPPER ORES Sold at LIVERPOOL, from Aug. 1 to Aug. 15.

Messrs. Piteairn-Campbell and Co. (August 15) write—The slight improvement indicated in our last report has been further developed during the fortnight, and there has been more activity in most branches of trade. Smelters have operated with more confidence, and quotations for the raw material are higher. English copper is also firmer, and there have ceased to be sellers at the previous low prices. Letters, in anticipation of the West Coast mail of July 2, have been received via New York, bringing advices of full shipments during the fortnight, and of considerable transactions in bars, ores, and regulus. Quotations are 14s. for Chili ores and regulus; 69l. for bars; 77l. for ingot; 15s. to 15s. 6d. for Barilla. Sales since our last have been—

Mine or ship.	Tons.	Price.	Mine or ship.	Tons.	Price.
Bars—Second hands.	50	£68 0 0	Bars—Deerhound	104	£69 0 0
Bars—Oberon	40	68 2 6	Ing.—St. Bernard	33	77 0 0
Bars—Second hands.	50	68 5 0	Ore—Delaware	550	0 14 0
Reg.—Edgar	90	0 13 9	Ore—Thomas Daniel	272	0 13 10
Reg.—Second hands.	450	0 13 6	Reg.—Patagonia	77	0 14 0
Ore—Emeralda	173	0 13 10	Bars—Spirit of Morning	68	10 0
Bars—Deerhound	100	68 10 0	Bars—Second hands.	100	69 0 0
Reg.—Thomas Daniel	159	0 13 10	Reg.—Darling	390	0 14 0
Reg.—Alpaca	50	0 14 0	Reg.—Moneta	100	0 14 0
Bars—St. Bernard	68	68 0 0	Ore—Black Watch	700	0 14 0

Arrivals during the fortnight—St. Bernard, from Tome, 68 tons bars and 68 tons ingot; Conqueror, from Tome, 160 tons regulus; Ann Cheshire, from Tome, 50 tons bars; Thomas Daniel, from Tocopilla, 159 tons ore and 272 tons regulus; Georgiana Frenell, from Carrizal, 645 tons regulus; Spirit of the Morning, from Valparaiso, 56 tons bars; Delta, from Lota, 325 tons bars; Enterprise, from Valparaiso, 15 tons bars; Alpaca, from San Antonio, 50 tons regulus. At Swansea—Deerhound, from Totorillo, 563 tons ore and 204 tons regulus; Moneta, from Tocopilla, 100 tons ore.

Stocks of copper (Chilian and Bolivian) in first and second hands likely to be available are—

ocks of copper (Chilian and Bolivian) in first and second hands likely to be available are—					
	Ores.	Regulus.	Bars.	Ingot.	Barilla.
Liverpool	2318	2474	4126	670	386
Swansea	3397	870	813	331	64

Total 5715 | 3344 | 8739 | 1626 | 461 || Representing about 13,250 tons fine copper, against 12,600 tons Aug. 15, 1866; 13,145 tons Aug. 16, 1865; and 12,535 tons Aug. 15, 1864. | | | | | |

COPPER ORES. NO SALE on Thursday last, August 15.

Copper ores for sale at the Royal Hotel, Truro, on Thursday next.—Mines and Parcels.—Devon Great Consols 1714—Marx Valley 468—Brookwood 270—East Caradon 254—Okeford Tor 136—Gawton Copper Mine 138—Prince of Wales 132—Wheal Friendship 80—Bedford United 76—Furdon 17—Total, 3329 tons.

Copper ores for sale at Tab's Hotel, Redruth, on Thursday week.—Mines and Parcels.—South Caradon 444—Cliff 366—Great North Downs 348—West Damsel 218—Phoenix 179—Fowey Consols 120—Grampian 11

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSESS. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. W. H. CUKLE has retired from the firm, in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FREDERICK WATSON, and himself, under the name of "WATSON and CUKLE," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. F. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column. In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c. &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts; but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

WEST CHIVERTON—"J. R. H."—We believe the dividend due in a few days will be 2s. per share. Of late very large sums have been expended in new and extensive machinery, and in sinking shafts and laying out the mine, so that in a short time the ore will be worked far more easily and at considerable less cost. All the extra work referred to has been paid out of profits, without reducing the dividend or the share price, and it is only reasonable to suppose that by the beginning of next year the dividends will be materially increased. At present the mine pays 8s. per share per annum. Since this was written, there has been a good discovery made in the 110 fm. level.

"X. X."—We cannot advise on this head.

CHONTALES.—The gold sent home (about 1000 ozs.) as the result of the first month's working of these mines was got from the old and rudely-constructed mills of the natives, which were tumbling to pieces, and have since had to make way for the erection of the most improved and powerful machinery that could be sent from England. The agent, therefore, had not for many months any means of grinding the ores, but we are under the impression that a large amount of stuff has been accumulating, and when all the machinery, capable of crushing from 5000 to 6000 tons a month, is in working order, the remittances of gold will take a great many people by surprise. At Consuelo the stuff yields 4 ozs. to the ton, but Capt. Paul based his estimate of more than 200,000l. a year profit, if we remember rightly, on an average of 1½ oz. to the ton. Take, therefore, 5000 tons of stuff a month, yielding 1½ oz. to the ton, and 27. 10s. per oz., this would give 26,250l. a year, or a profit of over 2000l. a month. If anyone thinks these figures extravagant, we can only say they are what the original prospectus held out, and which many who have since been to the mines have said will be more than realised; and if they are shares will be nearer 20l. than their present price, and there can be nothing in the market better worth buying, to hold for a great rise or a good investment. We should observe that the large machinery in course of erection will render the company independent of the wet season.

SIGNALLING ON FRENCH RAILWAYS.—The systems of signalling on French lines of railway have latterly been the subject of studious investigation on the part of the Minister of Agriculture, Commerce, and Public Works, both with reference to the improved systems of the railways already in use, and whether a fixed or movable, with those denominated *signaux de train*, but summaries various methods of signalling adopted in whole or in part, or rejected, or yet awaiting more complete trial with reference to their adoption. The work is of so wholly a scientific character, and the atlas of illustrations by which it is accompanied, is so necessary to its apprehension, that for the present we must content ourselves with making it known to railway engineers, satisfied as we are that the facts detailed with reference to the results of various forms of applications of signals, and the account of the new inventions being experimented on for the purpose of bringing moving trains in connection with stations, and placing passengers *en rapport* with their guards, will afford valuable suggestions. In the latter point the French have certainly gone beyond ourselves. The work is the production of an able and accomplished engineer of high reputation, and bears evidence of being the result of minute and laborious investigation.

* Etude sur les Signaux de Chemins de Fer, a Double Voie, par M. EDUARD BRAME, Ingenieur des Ponts et Chaussees. Paris: Dunod, Editeur, 1867.

RAILWAY FINANCE.—A highly-interesting pamphlet has just been issued by Mr. Edward Stanford, of Charing-cross, consisting of a reprint of a letter addressed to the Right Hon. Benjamin Disraeli, by Mr. JOSEPH MITCHELL, M. Inst. C.E., and containing suggestions for the reorganisation and improvement of the railway companies at present in financial difficulties. His suggestion is that the Government should institute a rigid scrutiny into the financial condition of the companies now in difficulties, their debts, and the annual increase of the gross revenue, and when a satisfactory statement of these is obtained they should assume and take over by Act of Parliament in trust, the whole of these companies with their property, debenture, and floating debts. The companies taken over are to be managed by a Parliamentary or Government commission of seven, consisting of four nominated by Parliament and three by the shareholders, and that these directors should be empowered to grant a Government guarantee for the present debenture stock and for such additional funds as may be necessary to pay floating liabilities—the funds to be raised or debentures retained, which they will readily be with such a guarantee, at 4 per cent. to the Government, to advance nothing, and simply to interpose its guarantee. When it has restored the company's finances, it may hand over the line and works to the shareholders, and recede from its charge. The pamphlet is well worthy of attentive perusal by all concerned.

THE INSTITUTION OF ENGINEERS IN SCOTLAND.—The volume of "Transactions" just issued by this institution contains a series of highly interesting papers, including—"On the State of a Clock or Chronometer as influenced by the mode of Suspension," by Prof. Sir W. Thomson; "On an Improved Screw Steering apparatus for Ships," by Mr. James Skinner; "On an Improved Steam River Ferry-Boat for Passenger and Cart Traffic," by Mr. Julius Drewnen; "On the Theory and Practice of the Slide-Valve," by Mr. T. Adams; "On the Collection, Removal, and Application of Town Sewage, and the Saving of Water," by Mr. T. Hoey; "On a Method of Utilising Sewage, and Preventing Rivers from being Polluted," by Mr. D. A. Graham, C.E.; "On the Comparative Strength of Long and Short Struts," by Mr. James MacCallum, C.E.; and "On an Indicator for ascertaining the Speed of Ships." The volume is enriched with a number of beautifully executed plates in elucidation of the several papers, some of which will be referred to in a future Journal.

"THE WORLD'S JUBILEE."—Although pamphlets upon the National Debt are less popular than many others, it must by no means be concluded that it is impossible to find a scheme for discharging that debt, at the same time simple and practicable. Mr. WILLIAM HANN in his little work, entitled "The World's Jubilee; or, Public, Trust, and Other Debts in Relation to Mutual Societies" (published by Messrs. Marlborough and Co., of Ave Maria-lane), fully recognises that some of the schemes for the reduction of the debt have been of a somewhat wild and visionary character, others deep and abstruse, and nearly all impracticable, and takes every care to show that the plan he devises is alike useful and easy to be carried out. The essence of the scheme is the application of the building society system to the payment of the debt. The question is well argued, and has been so admirably treated that the work will be read with interest by all, whilst few will fail to derive instruction from it.

MISREPRESENTATION IN PROSPECTUSES.—The prospectus of the British and South American Steam Navigation Company (Limited) stated that the company would commence operations with six steamships, which were guaranteed to steam 10 knots, and "being fully rigged as clipper sailing ships, would perform the voyage regularly," within certain specified times. The company was a *bona fide* undertaking, but at the time the prospectus was issued the directors had only entered into contracts for the purchase of two ships. A Bill in Chancery (Hallows v. Fernie) was filed by a holder of 50 shares, seeking to be relieved from all liability in respect of his shares, on the ground of misrepresentation in the prospectus. Vice-Chancellor Wood, however held that though the plaintiff had not been guilty of any laches, the misrepresentation in the prospectus was not such as to entitle him to relief.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending Aug. 11 was 12,027l. 9s. 9d.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

EAST BASSET.—Once again I take the liberty of asking, through the Journal, why it is that we are never favoured with any official reports of the progress at this important mine? As I before said, its situation, former achievements, and highly valuable prospects render East Basset one of the most interesting mines, and the shares about the most delicately sensitive of any on the market, especially when the smallness of the number of the shares is considered; and it does seem the reverse of right that shareholders should have to depend on indirect and doubtful information, or the interested stories of "bulls" and "bears," except at the periodical meetings, when, and when only (as far as I can learn), we are favoured with an official report of the position and progress of our valuable property.—A SHAREHOLDER.

THE TRUCK SYSTEM, AND RAILWAY COMPANIES.—It seems to be the general opinion that the abolition of the Truck System has been a great boon to the country. Granted—allowing it to be so—that the manufacturer should not supply goods to his workmen, to the injury of the general trader; how is it that railway companies are allowed to manufacture rails, to the injury of the general manufacturers and others?—THOMAS JONES.

CORNISH CLAY AND TIN HILL MINES.—I have read the remarks in last week's Journal on these works by "One Interested." It is evident he has no interest in their welfare, and most probably holds no interest in either concern, or he would know that the quotation he selects has been explained to the members of the company more than once. I am perfectly satisfied with the progress making at both works, and as they will shortly be inspected, I may, if he be a member, have the opportunity of sending him a copy of the reports, and for the future shall decline to notice any more anonymous correspondence.—W. H. WILCOCK.

SELECT COMMITTEE ON MINES.—"R. F." (Newcastle-on-Tyne).—The report of "the Select Committee appointed to enquire into the operation of the Acts for the Regulation and Inspection of Mines, and into the complaints contained in Petitions from Miners of Great Britain with reference thereto, which were presented to the House during Session 1865," is that to which "R. F." no doubt refers. It was alluded to in last week's Journal, and has now been printed. The price is 4s. 6d., and it will be forwarded from our office on receipt of seven postage stamps.

TELEGRAPHIC CABLE INSULATOR.—"F. J. C." (Penzance).—The application of tin as a covering for telegraphic cables is not new. Amongst the most recent inventions is that of M. C. E. Lami de Nozan; it consists, firstly, in covering or surrounding the conducting wire or wires with a tube or envelope of tin or other suitable and analogous metal before placing the hemp, tow, or other outside covering, and the iron or steel shielding, which protects the whole; and, secondly, in interposing between the gutta percha which surrounds the conducting wire or wires and the metal tube a twisted or plated layer of asbestos, intended for protecting the insulating matter in case of it being necessary to solder the metal tube or envelope.

MINING IN CENTRAL AMERICA.—We are obliged to "J. R." (Bridgnorth) for forwarding Frank Leslie's *Illustrated Newspaper* of Aug. 3. The letter from Nicaragua was written by Dr. Berthold Seemann, and appeared in our Journal of June 29, p. 427.

CORNISH CLAY AND TIN HILL MINES.—A letter for "One Interested" is lying at our office, his address having been mislaid.

THE MINERAL RESOURCES OF COSTA RICA.—"R. D." (Manchester).—No company has yet been formed for working the Sacra Familia Mines, but certainly nothing has transpired to detract from their value, as already stated. Whenever the state of the money market is such as to justify the opening of a subscription list the prospectus will no doubt be issued, and as there is no question as to the value of the mines little difficulty will be experienced in raising the necessary capital. Good management and a moderate outlay are alone required; the mines are well situated near a good road leading to the best port on the Pacific side of the Republic. The mines can be cheaply worked, and the ores are excellent, but at present capitalists seem disinclined to embark in any enterprise whatever, regardless of its position or its prospects. A continuation of the series of articles referred to will shortly appear.

THE MINING JOURNAL may be had every Sunday morning of M. L. Nicoud Belenger, rue Rivoli, 212, Paris. Price 6s. centimes. Mr. Nicoud Belenger also supplies all English and American books and newspapers to order.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, AUGUST 17, 1867.

The Mineral Statistics of the United Kingdom for 1866 are about to be issued. We have been favoured by Mr. ROBERT HUNT with a proof-sheet of the introduction, which we at once communicate to our readers.

COALS.—The regularly continued increase in the quantity of coals raised from the collieries of the United Kingdom is a remarkable feature of the year 1866. It must be remembered that the year was marked by great commercial disturbances, and that several kinds of manufacture, and that of iron especially, were suffering from a severe depression. Notwithstanding this, it has been ascertained that upwards of 100,000,000 tons of coals were produced. The rate of increase for the last few years being as follows:—

1863	.....Tons	88,292,513	
1864	.....	92,787,875	..... Increase 4,495,358
1865	.....	98,150,587	..... 5,127,145
1866	.....	101,630,543	..... 3,479,956

The large quantity of coal raised in 1866 was obtained from 3188 collieries, and the great development of coal mining in this kingdom is shown by the fact that in 1856 there were but 2815 collieries in active operation.

The increase in our exportation of coal was 782,631 tons; therefore, about 2,500,000 tons of coals will have been consumed in this country in excess of the previous year.

Pursuing the desire to collect all possible information in answer to the question—"How is our coal used?" which was proposed in 1865, a series of detailed export tables have been given in this publication, which cannot fail of being useful and interesting.

IRON.—The quantity of iron ore produced in this country last year was 9,665,012 tons, about 300,000 tons less than the quantity returned in 1865. In the same period the quantity of pig-iron made was 4,530,051 tons, or 289,203 tons less than the production of our blast-furnaces in the previous year.

TIN.—The tin ore produced from the mines of Devonshire and Cornwall was slightly less in quantity than that obtained in 1865, and, as will be seen by the tables of prices given, there was still a downward tendency in the metal market. The total production of tin ore in 1865 being 15,686 tons, and the mean average price 55l. 6s. per ton; in 1866 it was 15,080 tons, and the mean average price for the year was 48l. 10s. 9d. The distress occasioned by this condition of things has been, and continues to be, very great. The year 1866 was in so many respects, especially as affecting our mining operations, a remarkable one, that it has been thought desirable to examine with more than usual care the lists of mines given in the Appendix, and to remove from that list the names of every mine which was not in actual working condition at the end of December. This has considerably reduced—as will be seen by referring to the lists of previous years—the number of active mines. Of course this applies to other mines as well as those wrought for tin. Some important tables showing the progress of the Dutch tin trade since 1855 are given. From these we learn that the island of Banca in 1866 produced 158,626 slabs of tin, and that of Billiton 33,000 slabs (1000 Banca slabs weighing from 33 to 34 tons).

COPPER.—The total quantity of copper produced in the United Kingdom was 11,147 tons, to obtain which our copper mines gave 180,378 tons of copper ore, nearly 16,000 tons less than the produce of 1865. During the year there was an increase of more than 7000 tons in the copper ore and regulus imported, nearly 56,000 tons coming to us from Chili alone. For copper and tin there were, in former years, upwards of 600 mines worked in our Great Western Mining Districts, whereas the lists for 1866 show that only about 300 are now in operation. This necessarily threw a large number of miners out of work, and it appears that more than 7000 miners emigrated.

LEAD AND SILVER.—Our lead mines produced as nearly as possible the same quantity of ore—a little above 90,000 tons—as they yielded in 1865, while there appears a falling off in the production of silver. This is rather apparent than real. A great number of the smaller mines of the North of England returned their produce as giving 3 ozs. and 4 ozs. of silver to the ton of lead. It has since been discovered

that much of this was never separated from the less valuable metal. This year this error has been to a considerable extent corrected. Of the other metals and minerals nothing need be said beyond the statement contained in the following summary:—

GENERAL SUMMARY OF THE MINERALS RAISED AND THE METALS PRODUCED IN THE UNITED KINGDOM IN 1866.

Quantity of minerals raised.	Estimated value.	Quantity of metals produced.	Estimated value.
Coals	.....Tons 101,630,543	.....	£25,407,635
Iron	..... 9,665,012	..... 8,119,938	.. 4,530,051
Tin	..... 15,080	..... 731,946	.. 11,163
Copper	..... 180,378	..... 759,118	.. 11,163
Lead	..... 91,047	..... 1,161,228	.. 67,390
Silver	..... 12,770	..... 42,655	.. 3,192
Zinc	..... 185,402	..... 77,932	.. 60,916
Pyrites-sulphur ores	..... 2,927	..... 0zs. 743	.. 2,656
Gold-quartz	.....	.....	.....
Arsenic	.....	.....	.....
Gossans, &c.	.....	.....	.....
Clays—fine	..... estimated..	..... 825,000	..
Salt	.....	.....	.....
Barytes	.....	.....	.....
Earthy minerals not returned (estimated)	.....	..... 650,000	..
Metalliferous ores and metals other than the above (estimated)	.....	..... 50,000	.. 95,000

Total value of minerals.....£32,821,612 Total metals.....£14,954,695

The total value, therefore, of our mineral productions for the year 1866 will be—

Obtained from ores raised from British Mines, £14,954,695

Estimated price of coal at place of production, 25,407,635

Earthy minerals (manufactured), not included

in the above, not building stones 1,350,000

Total £41,712,330

In 1865 a considerable return was given of the mineral oil obtained from the Cannel coals and bituminous shales of this country. The production of this has nearly ceased, owing to the excessive importation of the oils obtained from the mineral springs of America.

THE COAL SUPPLY IN ENGLAND AND IN FOREIGN COUNTRIES.

Sir R. Murchison, Director-General of the Geological Survey of the United Kingdom, in his report to the Science and Art Department, states that he was called upon in the past year to express to the Secretary of State his opinion on the relative importance of the coal produce of various British colonies and foreign countries. Only two of the twenty-five colonies thus brought under his consideration contain any amount of coal worthy of Imperial notice—New South Wales and Newfoundland. He has, however, some reason to believe that Natal, which was not officially brought to his attention, contains a considerable amount of coal, which, though its geological age has not been ascertained, would seem to be worthy of a colonial survey, sanctioned by the Home Government. New Zealand is another colony to which his attention was not called; in that island a considerable amount of coal, of secondary and tertiary age, is in course of development, under the direction of Dr. Hector. As to foreign countries, the amount of coal produce of any one of them, when placed in comparison with that of England, is very small, as appears by the following list, prepared by Mr. Robert Hunt:—

Prussia, and other States of the Zollverein	.....Tons	16,966,707
United States of America	.....	14,393,059
France	.....	11,300,000
Belgium	.....	9,758,223
Russia	.....	6,350,000
Austria	.....	2,265,228
Spain	.....	144,293
Sundry small States	.....	93,925

TotalTons 61,412,036

England 98,150,587

Hence it appears that England produces about a third more of true coal than all those countries united. Some foreign countries produce, it is true, a considerable quantity of brown coal, Germany and Austria yielding 7,246,173 tons of this inferior fuel. In reference to the proposed preparation of an estimate of the quantity of still unwrought coal remaining in the British dominions, Sir R. Murchison states that, touching the coal fields of the North of England and Scotland, which are being surveyed, the Royal Commission now sitting will be furnished with much important knowledge through the researches of Professor Ramsay, Mr. H. Howell, Mr. E. Hull, Mr. A. Geikie, Mr. A. Green, and others; while the small amount of coal existing in Ireland will be reported upon by Mr. Jukes. The duty of preparing an estimate of the probable amount of coal which now lies hidden beneath the younger formations of Britain must necessarily, for the most part, be executed by the Geological Survey; which department could have executed the entire task of affording to Parliament and the public "a reliable approximation to the amount of unwrought coal in Great Britain," but it would have been necessary to suspend for many months the labours of a large portion of the surveyors, and this was not thought an advisable course.

THE NON-SAFETY OF SAFETY-LAMPS.—The notice of the experiments made at the Barnsley Gasworks last week, tending to show that the best of lamps, including the "Geordie," was not to be depended upon, has caused no ordinary amount of excitement in the South Yorkshire district, and from all parts of the extensive coal field enquiries have been sent to Mr. Hutchinson with regard to them. To still further elucidate the theory laid down, that none of the so-called safety-lamps are actually what their name implies, a large number of persons interested in the coal trade were invited to the gasworks on Wednesday last to witness the experiments. Amongst those present were Mr. Woodhouse, Derby, the eminent mining engineer; Mr. Diamond, the Oaks Colliery; Mr. Booth, Silkstone Fall, and the principal stewards of the district. The experiments, as before, were conducted by Mr. Hutchinson, as the manager of the gasworks, and Mr. Wilson, of Darfield Mine. Several Clanny and other lamps were tested, and all of them exploded when subjected to a current of gas and air. Mr. Lawton, of the East Gawber Collieries, one of the oldest stewards in the district, brought a Stephenson lamp, which he had long used as a certain safety, to be tested. On being subjected to the usual test, Mr. Lawton, who examined the process with great earnestness, was much surprised to see his favourite lamp gradually warm until it got red-hot, and the gas burn a bright blue and green until it exploded with a loud report. Several other lamps were tested, nearly all of which shared a similar fate. In no instance did any of the lamps put through this ordeal last more than forty-seven seconds. Mr. Woodhouse was, unfortunately, obliged to leave rather early, so that he was unable to express a decided opinion with regard to the experiments. Nearly all those present, however, were satisfied that the question of the safety or non-safety of the lamps at present in use at collieries had arrived at that point where it was necessary to have the very important question thoroughly tested and decided. As the area in which the lamps have so far been tested has, to some extent, been confined, it is proposed to extend it, and also to obtain the gas escaping from the Oaks Colliery, where it is coming out at present at the rate of more than 1000 cubic feet per minute, so that the most reliable data can be arrived at. From nearly all parts of the kingdom Mr. Hutchinson and Mr. Wilson have been asked for information respecting the experiments, and it is evident that the question as to the amount of safety ensured by the lamps now in use will be settled.

VENTILATED FUEL—UTILISATION OF SMALL COAL.—Large quantities of artificial fuel are now manufactured from small coal, agglomerated with tar or similar materials, and moulded into solid rectangular blocks; such fuel, however, unless made of very good coal is slow burning, and it is difficult to supply to it sufficient air to prevent the deposition of a soot in the flues, which, for the time, greatly interferes with the efficient working of a boiler, and is difficult of removal. To avoid these inconveniences, an invention was provisionally specified (but it has become public property through the inventor's failure to proceed) by Mr. JAMES BIRD, of Seymour-street, Connaught-square, according to which he proposed to mould such artificial fuel into blocks having a hole, or holes, through them, which

when the fuel is burnt, by giving free passage to the air, increases the rapidity of combustion and lessens the amount of smoke produced. With a similar object he forms sides of the blocks hollow, with grooves in them, and these grooves also, when the blocks are in the furnace, serve as channels for the air and flame; two or more of the sides of each block may be so made. The blocks are moulded by pressure in moulds of suitable form, cores being used to form the passages through the blocks.

COAL IN PRUSSIA.—Ten years since—in 1857—the production of the collieries of the Sarre was 1,725,000 tons; 12,614 workmen were employed, and the average production per each workman employed attained a total of 165 tons. Very great progress has been realised since the date in question. Thus, in 1867 the extraction had been carried to 2,600,000; 14,026 workmen were employed, and the average production for each miner employed was 185 tons for the year. The annual increase in the production since 1864 is estimated at 300,000 tons; in fact, the progression has been only stopped in the Sarre basin, as in almost all the other coal-producing centres, by the want of labour. France consumes nearly half the production, but this outlet for Prussian coal is not considered to be extending. On the other hand, the exports to Switzerland and the sales made to the German colonies are being further developed. The royal administration of the Prebuck Mines has slightly reduced this month (August) the rates charged for its coal.

DISTRESS AMONGST CORNISH MINERS.—From the reports collected by the central committee for ascertaining whether any and what distress existed among the mining population of Cornwall, it appears that, owing to the mines having stopped or reduced operations, many able-bodied men have left their homes in search of employment in America, California, Australia, and the mines of Scotland, Wales, and the North of England. There are now few able-bodied miners willing to work who are out of employment; but the average wages is reduced from 65s. per calendar month two years ago, to 54s. 6d. at present—an amount insufficient for procuring the necessities of life. Where the migrating miners have left families behind them, such families have often to suffer hardships. In the districts which are suffering most, many families are reported to be without under-clothing, sleeping upon straw, and living upon coarse dry bread. In some, there are many instances in which the families have crowded together to save the expense of rent. Old people are left without the support which children have hitherto been able to afford to them; and there is a general apprehension that, in the coming winter there must be very severe distress and great destitution. The worst reports presented were those from the Penzance and Helston districts; it is also reported that there is much destitution at Chacewater and at Calstock. From Camborne and Redruth the reports indicate some distress, but that most of the mines are in full work. From St. Austell the report is of much mining depression, alleviated by increased activity in the china-clay trade, and some other branches of industry. In the Liskeard district there does not appear to be more distress than is usually incident to a high price for provisions. The central committee have resolved that there is evidence to show the existence of severe distress, varying in degree in the different districts, but that generally it is of a character which at present can be met by the ordinary action of the Poor Law, supplemented by local subscriptions from the more affluent classes, but it is apprehended that during the winter some voluntary aid may be required.

DERBYSHIRE MINES.

In last week's *Mining Journal* a correspondent, "Tourist," graphically described the landscape beauties and mineral wealth of Derbyshire. We, however, notice one or two errors into which "Tourist" has fallen, especially where he states that the principal seat of the mines is in the small town of Wirksworth. This is not so, for Derbyshire is a long, straggling county, having two separate and distinct mining centres, the one in the High Peak, and the other in the once-called Low Peak, situated, as described by "Tourist," in or around Wirksworth. Wirksworth, the site of MANLOVE'S poem, lies rather below the middle of the county, but the High Peak occupies all the extreme north-west corner, where the country rises into mountains full of sublime scenery, rich in natural curiosities, and teeming with metallic ores and beautiful minerals. Amongst the former may be cited "The Peak," accounted of yore to be one of the seven wonders of the world; and amongst the latter may be noticed that beautiful mineral, fluor-spar, locally known in its amorphous state as "Blue John," the chief source for fluoric acid, a corrosive fluid largely known to science and the arts, particularly for etching on glass. Some writers assert that the priceless Murrhine vases of Imperial Rome were manufactured from choice varieties of this spar; but whether this were so or not, it is indisputable that Derbyshire was one of the favourite mineral fields worked by the ancient Romans when in possession of this island. The High Peak district, the Wirksworth district, and the Crich district are distinct, though their capacities are now made equal by Acts of Parliament—that is, of a capacity to hold 15 pints of water. The mineral customs of the High Peak are determined and governed by the Stat. 14 and 15 Vic., c. 94, and the kindred customs of the Low Peak, or Wirksworth, are established by the Stat. 15 and 16 Vic., cap. 163. As these enactments greatly resemble each other, we will not detain our readers by discussing them, but content ourselves by referring to Mr. THOMAS TAPPING'S exhaustive works on the "Mineral Customs of the Peak and Wirksworth Districts," including "MANLOVE'S Rhymed Chronicle of the Lead Mines of Wirksworth." We regret that the mining prospects of Derbyshire are not at present what they should be. Probably the not having a sea coast, the expense of land carriage, the hardness of the country rock, and the low price of the mineral when obtained, may all tend to depress mining adventure in this county. Lead does not yield prizes so tempting as do copper and tin; still, with all this, mining in Derbyshire may be made again to flourish, by carefully selecting mineral grounds, and working them with ample capital. At present, Derbyshire miners, as a body, are entirely ignorant of the advantages of associated capital, coupled with limited liability; and our belief is that if companies of this class were judiciously established throughout the county it would not be long before that favoured spot regained its ancient prestige of being the chief source for English lead.

METALLIC MINING IN YORKSHIRE.

LEAD AND COPPER MINING IN THE SWALEDALE AND MERRYBENT DISTRICTS. The Swaledale mining district is one which is, as yet, almost unexplored in the London mining market, but which is not the less worthy of the attention of all who are interested in mining enterprise. The metallic mines of the Yorkshire dales are all worked in the carboniferous or mountain limestone series of rocks. Some of these mines have been worked since the days of the Romans, and have for generations returned very large profits. Old Gang Lead Mine is at the present time returning to its proprietors many thousands of pounds yearly profit, at least 250 to 300 per cent. upon the original outlay; whilst Hurst, Keld Head, and other mines, all worked as private partnerships, are said to be giving profitable returns, only second to Old Gang in amount.

One of the most interesting features of the district, however, is the discovery of an extraordinary deposit of copper ore on a property known as the Merrybent Estate, situated about midway between Richmond, in Yorkshire, and Darlington; in fact, the ore there discovered has been pronounced by the highest mining authorities to be perfectly unique in Great Britain, and only comparable for richness and freedom from earthy admixture to the produce of the Burra Burra Mines, in Australia. This remarkable discovery was accidentally made by a drainer at work in one of the fields, and no less than 60 tons of copper ore were extracted and sent to the market from a thin bed of surface limestone, about 2 fms. in thickness, and within a short length of 30 fms. on the course of the lode. No dressing whatever, beyond mere drying, was necessary to render the ore marketable; several considerable samplings averaged upwards of 45 per cent. of pure copper, and realised from 35s. to 38s. per ton. Upon this discovery becoming known, some gentlemen of the neighbourhood purchased the Merrybent Estate, and, having quietly secured mining leases of the principal adjoining royalties, formed a company for the purpose of developing the copper lode (which can be traced for several miles across the country) in the main ore-bearing limestone beds of the district, which lie at a depth of 40 to 60 fathoms below the thin surface bed wherein the first discovery was made. Since that time the proposed shaft has been progressing slowly but surely, and the main limestone has recently been reached 40 fms. below the surface. It is intended to continue the shaft through that limestone, and then to cross-cut to the copper lode, and there can be

little doubt that some further most valuable discoveries of ore will be made within the next six or eight months. Pending the completion of the engine-shaft, the exploring adit levels have been driven a considerable distance, and have intersected several lead-bearing caunter lodes, which lodes, notwithstanding that the face of the deepest level is not above 13 fms. below the grass, have already returned 3900s. worth of ore, and are now producing about 40 tons of lead ore monthly, worth on an average 11s. per ton—in fact, the returns of lead from the superficial levels referred to are more than sufficient to meet the current cost of the mine.

The Merrybent estate contains not only metallic riches, but it is expected that the limestone rock itself will shortly be utilised by the construction of a line of railway 6 miles in length, to join the Darlington and Barnard Castle branch of the North Eastern Railway, for which an Act has already been obtained. This railway will enable the Merrybent Mining Company to deliver limestone, of which nearly 1,000,000 tons per annum are used as a flux in the iron smelting furnaces of the Cleveland district, at a price which will leave a splendid profit upon the cost of quarrying—in fact, the shareholders in the Merrybent Mining Company, working as they do the minerals in their own estate, and with the remarkable discoveries already made and in prospect, cannot fail shortly to reap most substantial returns from their enterprise.

THE COMMERCIAL WEALTH OF THE UNITED STATES.

PROFITABLE EMPLOYMENT OF CAPITAL.

As we promised in last week's Journal, we continue the review of the able work on railways generally, and American railways especially, by Messrs. BELLOT DES MINIERES BROTHERS, of Gresham House. At this inauspicious moment, when a settled gloom hangs over the financial, commercial, and railway world, it seems inopportune, if not injudicious, to call public attention to a class of investment which, amongst so many others, has not been a little discredited during the late crisis. But it is necessary to keep the lamp of enterprise constantly burning, lest that the spirit and fire of industry should become altogether extinguished. Amidst the financial distress and confusion which now prevail, owing to the collapse of a vast number of gigantic projects in both Europe and America, it must be borne in mind that a much greater number of sound undertakings still survive, which have stood successfully the ordeal of the last 18 months, and now promise to yield a rich harvest of profit to the capitalists who have been in a position to "hold on" through these trying times. The present low state of interest must sooner or later tend to revive the long-continued dormant activity of the public.

Amongst other undertakings attention is called to the American Central Railway—one of those magnificent schemes, which viewed in connection with the gigantic project of the Union Pacific Railroad, is a grand and national enterprise, and one which will tend more to advance the general commerce of the world than, perhaps, any other undertaking. Messrs. BELLOT DES MINIERES BROTHERS, the eminent contractors for the American Central Railway, have recently issued a pamphlet, having for its main object to win back public opinion to a more just appreciation of the position and value of American railroads than now prevails, in consequence of the shock to public confidence caused by the disrepute into which the Atlantic and Great Western, with other transatlantic railways, have fallen. With a view to counteract the damaging effect of those disasters, caused wholly by mismanagement, we are now told authoritatively that taking 15 of the best railway lines in the United States they pay to their shareholders no less than 27 per cent. profit, whilst a great many more do not pay less than 18 per cent.; and in fact, whilst British railways yield at the best but a scanty, precarious income far less than that derived from foreign stocks, there is scarcely a railway in the United States which does not pay a reasonable, if not a handsome, dividend, mainly because the cost of construction is cheaper, and the right of way costs little or nothing. The absence of branch lines in direct connection with the main trunk line, the higher rates paid for passenger and general traffic, all concur in making an American line what Lord CAIRNS calls a "going concern," whilst our own lines, complicated with a thousand embarrassments, are cast into discredit, or into the inextricable vortex of the Court of Chancery.

The American Central Railway crosses the States of Ohio, Indiana, Illinois, and Iowa, perhaps the most productive, the most populous, and thriving region of the United States. It is 585 miles in length, and at its extreme point east, at Omaha, it joins the Union Pacific Railroad, thereby shortening the distance from New York by 136 miles. The Union Pacific is, we know, to be the length of 2400 miles, has already received an appropriation from the United States Government of \$100,000,000, and of 40,000,000 of acres of contiguous land, vastly more valuable: 500 mile of the Union Pacific Railroad are already at work. At the east, from Omaha to Fort Garay, 250 miles are in operation; whilst at the other terminus westwards, the State of California having undertaken to accomplish half the entire burden, is pushing forward the work with unexampled vigour. Some \$20,000,000 have already been spent, the summit of the Sierra Nevada is being bored through near its crest, and the engineering obstacles of this mighty undertaking are practically surmounted. No less than 150 miles of this portion of the system are in successful and profitable operation.

This very brief sketch will enable our readers to take into their minds the simple but vast undertaking which, by the construction of the American Central Railway, will, when completed, bring New York and California into direct communication. The boundless local traffic which will necessarily be developed throughout the whole line; the perpetual stream of commerce which must flow into the ports of the Atlantic and the Pacific Oceans; the numerous already existing intersecting railways, which must act as feeders to the American Central Railway, especially in connection with the markets of Chicago and the Lakes, form collectively an amount of carrying trade which has been roughly reckoned at hundreds of millions of tons annually, but which must be practically inexhaustible. The abundance of coal found in the very track of the line will contribute immensely to lessen the expense of its working; and when, on the other hand, the rich minerals of gold, silver, and other valuable metalliferous products of the adjoining states and territories are taken into account, together with the abundant and diversified agricultural products raised in those fertile regions, there seems little doubt but that the general traffic of both passengers and produce must be enormous, continuous, and not destined to encounter any competition in any quarter.

We will continue in next week's Journal our study of the work above referred to, published by Messrs. BELLOT DES MINIERES BROTHERS. It is worthy of the notice of all business-men; no able book upon the matter has yet been published. If the practical ideas set forth in it had been acted upon, hundreds of millions of squandered money would have been saved by investors in railway securities.

MINERAL WEALTH OF THE PACIFIC.

The season opens with bright prospects in favour of our metallic and mineral-bearing country. The fabulous accounts from all our Pacific States and territories and Colorado are, indeed, incentives for those desirous to invest. New districts and unexplored fields are opened, each presenting more inducement than their famous predecessors. We are daily in receipt of new rich discoveries. Several well-known experts, and persons qualified to give an opinion, give us to understand that no better silver deposits are known in the world than in the Pacific States and territories. The public are not sufficiently educated as to the necessities required for mining enterprises, otherwise greater results might have been achieved. The bullion product thus far obtained has been chiefly wrought out by the severest toil and privations on the part of explorers and miners. Some little encouragement has been given by capitalists to mining enterprises, and that may be only considered as experimental; the earnest and real purpose for mining has not reached its zenith, but the day is not far distant when we may say that those who have a spare pound to invest will willingly grasp at any shares that may offer. Great results are expected from the enterprises emanating from the silver mines on the Pacific coast during the next twelve months; this will have its desired effect. Very many reliable parties from the Eastern

States of America are now sojourning in this country for the purpose of purchasing valuable tracts of mining property, to hold the same until our great highway shall reach from ocean to ocean, when, no doubt, the mining mania will take place. Cash will be readily offered and demanded for such mines, and the limited inducement of disposing of mining property on the basis for working capital will surely cease. A short review of some facts observed from the recent returns from the silver mines on the Pacific may assist us in drawing conclusions for safe investments in this class of property. Principally, however, have been made by it in the shortest time. The history of the Mexican mines, as chronicled by Humboldt and Ward, furnishes remarkable illustrations, but they would possess a still higher degree of interest if an equally able historian could be found in the present time, who might add those developments which have taken place in the present century. The Comstock lode, in the State of Nevada, may be ranked among the richest and most productive on record in any part of the world. Its total produce has been from 1862 to 1865 \$48,000,000; since which time the annual production of silver in other parts of the world has not undergone great changes; the total amount of silver produced was, according to Prof. Whitney, \$17,443,200; of which sum \$7,964,000 came from European, and \$9,479,200 from American mines. It will be seen that the produce of silver (deducting the gold) of the Comstock lode, in the last three years, was about 23 per cent. of the entire amount furnished by all the silver mines in the world. This extraordinary productivity has created a new branch of mining in the Pacific States, with such remarkable results in the space of a few years from all our silver mines, which has made them more famous for their mineral wealth than many places where silver ores have been mined and abstracted for centuries. It has and will give successful employment to large amounts of capital, and rescue the trade of the world.

From the "San Francisco Stock Circular":—"The mining share market continues exceedingly active; most shares have sold at an advance over our quotations of last week. Savage advancing from \$2500 to \$2750. During the week ending May 18, 2328 tons of ore were extracted, which has given \$96,496. Hale and Norcross was offered at \$3500 during the past week. From the 1st to the 19th 2167 tons of ore were extracted, showing a yield of \$92,300. Every portion of the mine is said to look well. Yellow Jacket has been in favour, with an advance from \$1725 to \$1800. The produce from the 1st to the 13th, in bullion, was \$66,311.36. Gould and Curry has been in considerable favour, improving from \$575 to \$660. Alpha from \$425 to \$490. Imperial from \$240 to \$274; bullion received during the month of April aggregated \$95,162.91. Confidence from \$67 to \$88; bullion amounted for April to \$17,131.19. Crown Point closed at \$1750. In this mine where the rich strike was made 5 ft. wide. A miner who was working in the drift when the ledge was cut rushed to a broker's office, as soon as he could get out of the mine, and bought 1 foot at \$800; the next day the stock went up to \$1400, and has risen since to the amount of \$1750. During the week the shipment of bullion by Wells, Fargo, and Co. amounted to \$245,415.45.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,
Patent Agent and Adviser, M. Soc. Arts, Assoc. Soc. Eng.

The extracting of silver from lead by means of zinc—an object which Mr. Parkes was one of the first, perhaps the very first, to attempt—has recently formed the subject of a patent, taken out by C. F. FLACH, of Call, in Prussia. He divides the process into three stages—"desilvering" lead by zinc, purifying the "desilvered" lead, and separating the silver from the alloy of lead, zinc, and silver. He requires no addition to the ordinary apparatus used in lead works, except a small blast-furnace. He states that the essential conditions under which lead can be completely desilvered with the smallest quantity of zinc consists in this—that the lead must have a temperature of from 600° to 700° centigrade; and the necessary quantity of zinc must be distributed over two or three operations. The lead is to be placed in a pot, having a draw-off tube and cock at bottom, which is highly heated; zinc is introduced, and the whole stirred, and left to rest and cool, when the supernatant alloy of lead, zinc, and silver is drawn off, and the operation repeated twice or thrice, each time with the addition of a small amount of zinc. The desilvered lead, containing zinc, is run into a blast-furnace, preferably with a silicious slag, and then melted with green wood. If any antimony remain with the lead, it can be removed by red-heat in a calcining-furnace, or by common salt. The patentee states that heretofore the capability of green wood to remove zinc from lead was unknown. A calcining-furnace, steam, or other means of heat may be substituted for a blast-furnace.

Mr. GREENSHIELDS proposes to utilise certain animal, vegetable, and mineral materials, by forming them, or some of them, into a compound, to be applied with or without shale or other carbonaceous material, for the production of illuminating gas. He mixes together resin, pitch, oil, or dead oil, or heavy oil, paraffin oil, or tar, or other form of paraffin, petroleum, animal tar, an alkali earth, or metallic oxide, capable of saponifying, and forming either a soluble or insoluble compound. The substances to be saponified are boiled with an alkali, and allowed to cool and solidify, or the compound may be left in a soft plastic liquid or soluble condition.

Mr. BERNARD LIETAR patents a composition for welding or soldering metals, consisting of filings of iron or steel, combined with borate of soda (borax), balsam of capivi, or a resinous oil, and an ammoniacal salt. The ingredients are mixed, calcined, and reduced to powder. Certain proportions are mentioned, though the patentee does not restrict himself to them.

Mr. ALPHONSE DONNET specifies, under his patent, an improved construction of water-well, according to which he proposes to close the well in a staunch air-tight or hermetical manner at the surface of the water, or between the surface of the water and the top of the well, in such manner as to entirely intercept all communication between the water and the atmosphere air, except through the bottom of the well, by which means the patentee considers that the well will supply a much larger quantity of water than an ordinary well of the same size would yield. One mode of closing in the well is by forming the water-chamber of air-tight masonry or concrete, having a ledge at top, on which a metal plate is rested, and made tight by cement or packing. Another mode consists in fixing to the well, at the bottom, a metallic bell, cylinder, or chamber, closed at the top and sides, but open at bottom.

Recent applications for patent include the following:—HORSLEY, Alfreton, treating cast-iron.—CLARK (communication from Schmitz and Levallois, Paris), metallic alloy and its applications.—DAWSON, Great St. Helen's, smelting titaniferous iron-sands.—ABEL (communication from Bennett, Pittsburgh, U.S.), removing sulphur, phosphorus, and other impurities from iron, steel, and other metals.—WILSON, Bolton, furnaces.—M'DUGALL, Manchester, extracting sulphur.—RAWLINGS and WILKINSON, Eversden, washing coprolites.

Notices to proceed having been lodged by the following applicants, oppositions intended thereto must be entered on or before Sept. 4:—No. 960, HARRIS, gunpowder.—No. 989, REEVES, explosive compounds.—No. 997, SPENCE, separating zinc and recovering substances from minerals.—No. 1097, ADAM, pump.—No. 1055, VICARS and SMITH, smokeless furnaces.—No. 2099, LISTER, consuming smoke, economising fuel, &c.

REPORT FROM SCOTLAND.

AUG. 14.—There is almost an undisturbed tranquillity in our Pig-Iron Market, so far as prices are concerned, and a moderate business is being transacted, the shipments showing, for the week just ended, 13,130 tons, against 12,460 tons in 1866. The following is the list of furnaces in blast, out of blast, and built at date:—

Brand.	Blowing.	Out.	Built.
Gartsherrie	12	4	16
Coltness	9	3	12
Summerlee	2	2	8
Dundee	1	2	3
Langloan	5	3	8
Govan	1	4	5
Calder	6	2	8
Carnbroe	4	2	6
Shotts	3	1	4
Onoa	2	2	4
Wishaw	3	0	3
Monkland	7	2	9
Chapelhall	1	0	1
Clyde	4	3	7
Clyde (Quarter)	2	1	3
Castlehill	0	3	3

The prices are rather creeping upwards, buyers and sellers sometimes "haggling" over from 1d. to 1½d. a ton either way. Not much business reported to-day; a few lots were placed at 53s. cash, and at the close buyers would have gone on, but warrants are well held, and but little for sale. Makers' iron is quoted—Gartsherrie, 60s.; Coltness, 59s. 6d.; Summerlee, 58s. 6d.; Calder, 58s.; Glengarnock, 57s. 6d.; No. 1, g.m.b., 53s. 9d.; No. 3, 52s. 9d.

In Bar Iron there is still a little more doing, but prices are by no means improved. In some instances orders are being refused, not on account of an over briskness, but because specifications have been kept back until merchants were ready to ship, in the hope of purchasing more cheaply. In cases like these the vessels have to fill up, and the iron must go, perhaps a month later. Angle and ship iron not much enquired for. Brass and iron founders quiet, with the exception of makers of pipes, who are behind with delivery. Coals meet with more enquiry, and shipments keep improving, 33,885 tons being shipped for the week just closed, against 27,430 tons in the similar week of 1866. A large portion of these shipments form part of our exports to Canada, which continue to increase. Mr. McDonald has been very active during the week meeting with the Union miners, and reminding them that his exertions in their behalf dates as far back as 1842. It would be a piece of useful information if Mr. McDonald would show how much, during these twenty-five years, the miners of Scotland had lost through taking his advice. However, his principal object in meeting with the miners on this last tour was to inform them that he was going to visit America—of course, to enquire into the condition of the mining and other trades in that country—to see his brother also—and, perhaps, also to hint to those in office that the Jordan Hill miners had been

wrought up to such a pitch of enthusiasm at his last very stirring address as to pass a resolution to "contribute something to enable him to make the journey in comfort." There is no doubt Mr. McDonald likes to travel in comfort, and as much as possible at the expense of others.

The great majority of the shipyards on the Clyde never presented a more thorough deserted-like appearance than they do now. It is pleasing, however, to notice that Messrs. J. and G. Thomson, Govan, have received orders from Messrs. Burns and Macleiver, Liverpool, to build a first-class screw steamship, of 2500 tons, for their Atlantic service. It is to be named the Samaria.

On Tuesday, a series of explosions of gas, happily unattended with loss of life, occurred in Messrs. Potter and Company's Greenfield coal pit, near Hamilton. The first explosion took place between five and six in the morning, while the men were working in the pit, and on the earliest indication of gas being discovered they rapidly made their way to the bottom of the shaft, from whence they were immediately conveyed to the surface in safety. In less than an hour afterwards a second and more violent explosion occurred. When its effects had subsided, several of the workmen volunteered to descend the pit for the purpose of bringing up the horses, which they succeeded in doing. Several other explosions happened at various intervals during the day, and attempts were made to smother the fire by closing the pit mouth with beams of wood, earth, &c., and by throwing water down the shaft. These ultimately succeeded, and operations at the pit have been almost wholly suspended. Some time must necessarily elapse before the pit will be in such a condition as to permit the men to resume their work.

A correspondent of a local contemporary, who had been visiting the island of Islay, notices the resumption of mining operations in that island in these terms:—"The lead mines near Ballygrant had often been tried, but had invariably failed, on account of their not having been sunk sufficiently deep. Mr. Jeffrey has gone upon the principle that the veins would reappear and considerably improve, although lost sight of for some time, by sinking deep enough and his opinion has, after a fair trial, been completely verified. Two of the mines which are at present wrought are in a very flourishing condition. At Ballygowrie, on Mr. Child's estate, the appearance is really fine. The thickness of the lode is from 3 to 4 ft., while there may be altogether a thickness of from 1½ to 2 ft. of solid galena interspersed in a matrix of calcareous spar. At the other mine, at Mulroon, on Mr. Morrison's estate, the lode, which runs in a north and south direction, is 20 ft. wide in several parts, and the ore is richly interspersed, frequently 3 ft. thick. This lode is intersected by several others in an east and west direction, and at the points of intersection the ore usually increases largely in thickness. These two mines yielded 222 tons of ore last year, and, from their present appearance, we may calculate the yield for the current year at 300 tons. The lead in this district is spread over an area of fully 12 square miles; and numerous other mines would, no doubt, be as productive as those wrought at present were they to have a similar trial. These two which are so flourishing at present were given up as completely exhausted in 1836. At Ardachy, on Mr. Child's estate, is one not yet tried by the present company, which was formerly the most productive in the island. This mine was wrought as late as 1843, and we remember that at the time it was given up the appearance was very good. We do not doubt in the least that, according to the present mode of working, if it were opened up again, it would repay expenses and yield a good profit."

MOTHERWELL.—ARRIVAL OF CORNISH MINERS.—On Tuesday, a number of Cornish miners arrived at Wishaw, to partially supply the place of the men who came out on strike about ten weeks ago from Messrs. Scott and Gilmore's pits. The manager of the works waited the arrival of the strangers, and kindly supplied them with refreshments. Mr. Russell's, of Sunnyside, men are still locked out. The arrival of the Cornish miners caused considerable surprise. An agent from the Miners' Union had a conference with the Cornwall men yesterday.—*Scotman*, Aug. 15.

REPORT FROM NORTHUMBERLAND AND DURHAM.

AUG. 15.—The great event of the week has been the cutting of the first sod of the "Dinnington Colliery," which will be about half-a-mile west of Wideopen, on the Morpeth road, and about a mile from Seaton Burn Colliery, to which it is intended to be an adjunct. Its importance in connection with the working of Seaton Burn will be very great, as it will much facilitate drainage operations, and permit of both Seaton Burn and Dinnington Collieries being worked very economically. Messrs. John Bowes and partners are the proprietors of the collieries, which produce a steam coal which enjoys a considerable demand at present. The coal in the Seaton Burn Colliery dips down towards Dinnington, and it is intended to work the coal from this dip by this new colliery, and also to bring the water partially away from the Seaton Burn Pit, which is a very wet pit. A large pumping engine of 150-horse power will be erected. At present, nearly 1000 gals. per minute are lifted from the Seaton Burn Colliery, and, probably, it will be necessary to lift a larger quantity from the new pit. The shaft will be sunk to the Low Main seam, which is 85 fms. from surface. The shaft will be 17 ft. 9 in. in diameter on the outside, and 15 ft. 6 in. on the inside. It will be walled with fire-brick walling lumps. A railway, in course of formation, will run from the new winning across the Morpeth road, a little south of Wideopen, until it joins the railway, which runs from Seaton Burn Colliery to the Northumberland Dock. The sinking of the shaft and the erection of the necessary machinery will be carried out under the superintendence of Mr. S. C. Crone, viewer, of Killingworth, and of Mr. W. R. Wight, engineer at the same place. Nothing has been done as yet with the important undertaking, but it will be commenced at once, and 20 cottages are in course of erection for the men who will be employed in sinking the shaft and erecting the engine-house. The cottages are to contain three rooms each, and to be superior to any yet built in the colliery districts. The ceremony of cutting the first sod was most ably and gracefully performed by Mrs. C. M. Palmer, in honour of whom the pit has been called "the Augusta Pit." The success of the colliery was formally drunk by Mr. Palmer, who in an interesting speech informed the workmen that provision had been made for them to drink success to the Dinnington Colliery, as they had called it after his wife, "the Augusta Pit," at the different publichouses in the village. He remarked that, although they were only removing the first sod, it was the commencement of a large shaft, and that shaft was designed to bring forth coal to a large extent, from 800 to 1000 tons per day. "In producing such a large quantity of coal," he continued, "it is in the first place enriching this part of the country, because the mineral itself is our possessions; it is our wealth, and the foundation of our greatness. In the next place, it gives employment to a large number of people. In opening this colliery it is not simply a shaft we are sinking. In the course of a few years we shall see here a hive of industry. . . . In carrying out a large undertaking like this, it was necessary to provide for the education of the children of the workmen, and also to provide for their spiritual welfare, either by erecting churches or in assisting you in erecting your own chapels."

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

AUG. 15.—Wolverhampton Races made the Exchange in that town thin on Wednesday, and almost equally tended to diminish the work done in the mines and at the ironworks. However, the iron trade is certainly mending; and as the quarter has so far advanced without any reactionary cry, it may be hoped with confidence that the tide is fairly turning. There seems good expectation of a considerable autumn demand for the United States and British North America; and as confidence is growing, and making itself manifest in the advance in the prices of securities, we may hope that the whole trade of the country will soon feel the current of life flowing with increased strength and velocity.

The affairs of Messrs. Whitehouse, of the Ridgacre Ironworks, West Bromwich, and the District Ironworks, Smethwick, are a good deal canvassed. The firm, until a few weeks ago, consisted of three brothers. About a year ago, on the youngest attaining his majority, the works were handed over to them by their father's executors, when it was understood the firm was possessed of a nett balance of 25,000l. A recent trial at Stafford revealed the fact that one of the partners had been signing bills in the name of the firm to a large amount, for which they got no consideration, whilst he was paid large sums for lending their name. The firm became bankrupt last week. A meeting of the creditors of the firm was held to-day, at West Bromwich. The liabilities were put down at 40,000l., of which 14,000l. are secured. The assets were estimated at 39,000l. It is a mere speculation what the dividend will be. There is understood to be a considerable estate, but as yet it is impossible to say what the extent of the estate may be, besides those properly belonging to the firm.

At Stourbridge Petty Sessions, on Aug. 9, Enoch Dainty, the deputy of a chartermaster, was charged on the information of Mr. Baker, Inspector of Mines, with a violation of the rule requiring that the working of a mine should be examined before the men go to work. The defendant went down with others in a skip, on the morning of April 25, and two boys, who formed part of the band, lost their lives from inhaling choke-damp. The solicitor for Mr. Baker pressed for a sentence of imprisonment, but the magistrates only inflicted the full fine of 2l., which was increased by costs to 6l. 11s.

Amongst the limited companies which have come into existence since the passing of the Act giving power to create them, none have proved more satisfactory to the shareholders than that which has

taken the Patent Shaft and Axletree Works of Mr. Thomas Walker, at Wednesbury. Mr. Walker had obtained a large fortune, and wished to relieve himself of a portion of the responsibility and anxiety of his position, but he consented, for some time at any rate, to act as Chairman of the company, and his able manager, Mr. R. Williams, remained. In January last the large concern of Lloyds, Fosters, and Co., in the same town, was united under the same company, and its managing partner, Mr. Sampson Lloyd, of Wednesbury, a relative of the late candidate for Birmingham, became deputy-chairman. The company again pay 15 per cent., and make very large allowances for depreciation, &c. It is pretty certain that they will not be less successful in future than hitherto, as the demand for railway plant is sure to be great; and at the meeting on Wednesday a very sanguine view was taken of their future prospects.

QUARTERLY STATEMENT OF BLAST FURNACES.—No. II.

Made up to July, 1867.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE.

Name of works.	Owners.	Built in.	In blast.
Chillington	Chillington Iron Company	4	2
Wolverhampton	Assignees of J. Aston and Co.	2	0
Parkfield	Parkfield Iron Company	5	5
Millfields	Mrs. Gibbons	4	3
Priestfields, Old	W. Ward and Sons	3	0
Priestfields, New	W. Ward and Sons	2	1
Oxley Red	Oxley Red Iron Company	3	1
Stow Heath	W. and J. Sparrow and Co.	4	2
Willenhall	Fletcher, Solly, and Urwick	3	2

Name of works.	Owners.	Built in.	In blast.
Bilston Brook	Bilston Brook Furnace Company	3	2
Herbert's Park	D. Jones	1	1
Barbor's Field	Barbor's Field Iron Company	2	2
Caponfield	J. Bagnall and Sons	3	2
Spring Vale	A. Hickman	3	2
Despfields	W. E. Gibbons	3	1
Priestfields	H. B. Whitehouse	3	3
Stonfield	Stonfield Iron Company	1	1
Bradley	G. B. Thorneycroft and Co.	2	0

Name of works.	Owners.	Built in.	In blast.
Rough Hay	Addenbrooke, Smith, & Pidcock	3	2
Old Park	Patent Shaft Company	3	3
Broadwaters	S. Groucott and Sons	3	2
Darlaston Green	Darlaston Iron and Steel Co.	3	2

Name of works.	Owners.	Built in.	In blast.
Wednesbury Oak	P. Williams and Sons	3	2
Willingsworth	J. and H. Haines	2	0
Tipton	Rhos Hall Iron Company	2	0
Tipton Green	W. Roberts and Co.	4	0
Coneygree	Earl of Dudley	3	3
Park Lane	J. Colbourn and Sons	2	1
Horseley	J. Colbourn and Sons	2	2
Stour Valley	J. and S. Onions	2	2
Groveland	G. Hickman	1	1

Name of works.	Owners.	Built in.	In blast.
Gold's Hill	J. Bagnall and Sons	3	2
Union	P. Williams and Co.	3	2
Crookhams	W. and G. Firmstone	4	3
Oldbury	W. Bennett	4	0

Name of works.	Owners.	Built in.	In blast.
Birchills	John Jones	5	0
Hatherton	W. Fryar	2	1
Bentley	Chillington Iron Company	2	1
Pelsall	B. Blomer and Son	2	1
Green Lanes	John Jones	2	1

Name of works.	Owners.	Built in.	In blast.
Corngreaves	New British Iron Company	6	3
Dudley Wood	N. Hingley and Sons	4	2
Withymoor	W. H. Dawes and Sons	2	2
Netherton	J. and G. Onions	2	1
Windmill End	J. and G. Onions	2	2
Windmill End	Hickman and Co.	1	1
The Level	Earl of Dudley	4	2
Netherton New	M. and W. Grangebrook	3	2
Woodside	Cochrane and Co.	3	0
Old Level	Hall, Holcroft, and Pearson	3	0
Shutt End	J. Bradley and Co.	4	3
Oak Farm	Sir S. Glynn	2	0
Corbyn's Hall, New	B. Gibbons	4	2
Corbyn's Hall	W. Matthews	4	2
Russell's Hall	C. K. and J. Bradley	5	2
The Lays	W. and G. Firmstone	3	3
Green Lanes	W. Haden and Son	2	1
Parkhead	Evers and Martin	2	1

Total..... 167 97

Furnaces blowing, June, 1866..... 125

Name of works.	Owners.	Built in.	In blast.
Biddulph	Robert Heath	6	6
Clough Hall	Kinnersley and Co.	4	3
Fenton Park	Fenton Park Iron Company	2	1
Goldendale	Williamson Brothers	4	3
Lane End	Thomas Goddard and Son	3	2
Shelton	Earl Granville	4	2
Sivendale	The Sivendale Company	1	1
Talke	North Staffordshire Iron Co.	2	1

Total..... 33 24

—Iron Trade Review. (To be continued.)

REPORT FROM DERBYSHIRE AND YORKSHIRE.

AUG. 15.—There is little or no alteration in the state of the Iron Trade of South Derbyshire, and although a few of the largest makers keep busy, the trade generally is very quiet. Nearly all the furnaces are in blast, although a good many are working to stock. Pipes and sheets are in most request, but the enquiry for rails is not sufficient to keep the mills even moderately employed. There is a slight improvement in the Coal Trade, and there is just now a very heavy tonnage being forwarded from the district, Clay Cross alone sending more than 6000 tons per week to London. There is an increasing business being done in gas coal with Birmingham, Worcester, Gloucester, and the adjoining towns, so that the prospects in that branch show that with the advance of the season there is a strong likelihood of a return to that continued activity which for years past has characterised the large establishments of Clay Cross and Staveley.

It is worthy of note that from the former place a few years since, before the Midland Railway was completed, not a ton of coal was sent away from the ridge, whilst there will shortly be a capability of sending some 50,000 tons per month by rail, or close upon one-fifth of the entire quantity carried by all the railways into London. The direct line from Chesterfield to Sheffield is being pushed forward with great activity, and when completed will be the means of opening up an entirely new district, abounding in coal and ironstone.

Nearly all the Sheffield trades are quiet, those engaged in the heavier branches being alone anything approaching active. The great sensation of the week in the hardware town has been the decision of the Saw Grinders' Association, in which the acts of Broadhead and his confederates have been recognised as legitimate. It thus seems that Sheffield glories in her crimes, and that murder, numerous assaults, and the blowing-up of houses are, to a considerable extent, privileges appertaining to the Trades Unions there. How long such a state of things will be tolerated remains to be seen, but that the strong hand of the law will have to be invoked there cannot now be the slightest doubt, and the sooner the better.

It is gratifying to find that, in accordance with the remarks in last week's Journal, the invaluable services of Mr. Long, the able editor and managing proprietor of the *Sheffield Telegraph*, are not to be passed over without recognition. To him, more than to any other person, are the manufacturers of Sheffield indebted for bringing to light the transactions of Mr. Broadhead and his murderous companions. To them, therefore, in an especial degree, rests the appreciation of one who amidst threats and dangers, of which Sheffield at all times appears to be pregnant, has dared to denounce crimes, although gloried in by some, which have left such a damnable stain upon the town.

In the South Yorkshire district there is a marked improvement in the Iron Trade. At Milton and Elsecar the men have commenced to work full time, and in some branches to put in an extra turn. There is a very good demand for hoops and sheets. The rail mill at the last-named place is now kept fully going, there being orders in hand for several thousands of tons. There is continued activity in the steel branch of business, and the makers of Bessemer in particular are being kept fully going. At Penistone there is a very large quantity of rails being turned out weekly, the high reputation of the firm, who have in the person of Mr. James, better known as "the king of the blowers," one of the very best men in the trade, ensuring a succession of orders for the Great Peninsula of India Railway and others in America, as well as at home. The Coal Trade continues quiet. At the Oaks the workmen have come to a standstill, having got within a yard or so of the bottom, and are waiting for a meeting of the mining engineers, which would have taken place on Wednesday but for the illness of one or two. Mr. Woodhouse, of Derby, and Mr. Southern, the active Government Inspector, were in Barnsley, but, of course, they had no power to order anything to be done.

Two companies have just been projected for working colliery pro-

perties in Yorkshire. The Wheldale Colliery Company, for the carrying on of a colliery near Wheldale, York, &c. The promoters and directors are—Messrs. John Holt, Over Darwau; James Holt, Ovenden, near Halifax; Mark Oldroyd, Thornton, M.D.; Dewsbury; John Oldroyd, Dewsbury; Mark Oldroyd, jun.; Dewsbury; Robert Rhodes, Birstal; and Geo. S. Blakeley, Dewsbury. The objects of the Woolley Colliery Company are to work certain collieries—The Oaks Collieries, in the parish of Royston, near Barnsley, now called the Woolley Collieries, and the searching for, winning, and making marketable and disposing of coal, coke, and other minerals and substances. The subscribers to the Memorandum of Association are Messrs. Philip Saltmarsh, of Saltmarsh, near Howden; Henry Wells Allfroy, Stratford-on-Avon; Arthur Saltmarsh, near Robert Hodgson, C.E., Durham; Godfrey Armitage, Wakefield; John Marsden, West-gate, Wakefield; and Chas. Wm. Holbeck, Farnborough.

PIT ON FIRE.—On Sunday and Monday considerable excitement was occasioned at Barnsley by the report that Messrs. Sutcliffe's Kingston Main Colliery, was on fire. Such was the case, but no one was injured. The pit was fired eight months ago—on Dec. 9,—but three days prior to the awful calamity of the Oaks Colliery. At that time it was sealed up, in the hope of smothering it out; and once or twice it has been opened, but immediately closed again, owing to the prevalence of fire. A week ago the pit was again re-opened, and during the week the workmen were employed endeavouring to put out the fire by throwing water into the workings by means of pipes. During Sunday a large quantity of roofing felt, and the fire burst forth again. Dense volumes of smoke ascended the shaft and occasionally accompanied with fire. Next day the services of the fire brigade were called into requisition. The engine was again taken on to the pit premises, the hose was lowered down the shaft, and a stream of water was poured upon the fire the whole of the day. The fire is within a dozen yards of the bottom of the shaft, but the men are of course afraid to approach it, although they are enabled to throw the water a distance of 30 yds. into the workings, and it is hoped by this means they will be able to effectually put out the fire. A solid coal has been got out many years ago, and it is merely to get out the stage "posts" that the shaft is used.

REPORT FROM MONMOUTH AND SOUTH WALES.

AUG. 15.—The Iron Trade of this district has undergone but little change since the commencement of the present quarter, when an improvement took place, which has been maintained, and the trade at the works may be said to be somewhat better than it has been at any period during the present year. On account of the export trade more enquiries have sprung up, chiefly from the American and East Indian markets. The latest advices from the United States speak of a good demand for iron from that quarter early in the autumn. From Russia an increase of orders is also anticipated, as the large contract for rails given by the Government of that country to native works will occupy them for some time to come, and will tend to send orders to this district, which has been pretty extensively patronised by Russian houses for some months past. If the anticipations of ironmasters are, to some extent, realised, a steadiness in the Iron Trade may be looked forward to during the greater part of what remains of the year. In the home trade there is hardly any change to note in the employment at the works, and as yet railmakers have received but few fresh orders, but there is now no doubt entertained that before long an improvement will take place. The passing of the several Bills promoted for relieving the financial difficulties of the railway companies, the advance in the price of home railway stocks, and various other circumstances, all tend to confirm this opinion; and when once the rail branch of the trade resumes something of its wonted activity, the iron-making districts will wear a different aspect to what they now do. With a view to encourage the trade of South Wales, the Great Western Railway Company are prepared to carry iron from South Staffordshire to Newport or Cardiff at a little more freightage than is being charged to Liverpool from South Staffordshire, and recently large quantities of hoops have been sent from Staffordshire to Cardiff for shipment to the Indian markets, and there is every probability of still much larger quantities being sent. The Tin-Plate makers are well placed for orders, and masters were never in a better position than they are just now, every available hand being engaged, and the utmost pressure is put on to meet the demand. Quietness still characterises the Steam Coal Trade, and the majority of the collieries are on short time; but there are strong hopes entertained that an increased demand is about to set in from some of the continental markets, which during the whole of the summer months have not been such good customers as usual. In the House Coal Trade there is a fair amount of business being done coastwise, and the increase during the past month over the corresponding one of last year is nearly 40,000 tons. As you have already announced, the Secretary of State has appointed Mr. Alfred Septimus Palmer to the Inspectorship of Mines, vacant by the death of Mr. Verner. Mr. Palmer was formerly manager of the Risca Collieries, and took an active part in the enquiry which took place at the time on the terrific explosion in the Risca Colliery.

Mr. Fowler has delivered his judgment on the colliery informations heard in the Aberdare Police Court. The first was against Mr. Wilmer, for employing Thomas Gunter to work underground, he being under the age required by Act of Parliament. Mr. Fowler thought that agents ought to assist Government to educate the young, and resolutely refuse to pass boys under age, when the selfishness of parents would force them to work for the sake of the little money. The fine to be inflicted, according to law, was 5l., but, considering the fact that Mr. Wilmer had been deceived by the truthfulness of the boy's father, he should exercise the privilege the law allowed, and remit the penalty. In the case of Mr. Wilkinson, the complaint against whom was, that on May 1 a certain pit was not sufficiently ventilated, an explosion took place, and three men lost their lives. Mr. Fowler thought Mr. Wilkinson clearly liable, although the neglect was not his, but the men's, in whom he confided. Mr. Fowler read a long paper, in which he set forth his opinions, and the state of the law confirming them, and concluded by inflicting a penalty of 5l. Mr. F. James gave notice of appeal on behalf of defendant.

Some disgraceful acts of intimidation have been practised at Coedcae Colliery, and John Saunders has been committed for two months with hard labour for the offence. The company having failed to obtain men in the district through the intimidation practised, they at last succeeded in engaging a number of miners from Cornwall, in which county the depressed state of the mining interest has brought general distress, and almost starvation. On commencing work, and since, the Cornishmen have been greeted on going to and returning from work with kettle and frying pan demonstrations. These efforts to drive out the men proving unavailing, recourse has been had to intimidation to effect their removal. Mr. Simons, in opening the case, referred to the engagement of the Cornishmen, and the systematic annoyances and attempts to bribe and induce them to leave. He strongly denounced the clerical jury brought to bear upon some members of places of worship in the valley, whereby those who refused to leave the Coedcae pit were denied the Holy Sacrament, and threatened with expulsion from the church. The defendant, finding that the offer of money was ineffectual to induce the men to leave the pit resorted to threats. John Morris said he should consider himself a dirty little fellow if he were to leave his employers after having been so kindly treated by them. Defendant then said: "We'll make you go; we'll give you a week to consider of it, and if you don't go, we will come down with 300 or 400 men, and turn you out by violence." There was another witness, who deposed that he was obliged to carry a life-preserver to protect himself, as he went in fear of violence.

Mr. Justice Mellor, in his charge to the grand jury at the Monmouth Assizes, referred to the case in which James Gregory, manager of a colliery at Bedwas, was charged with the manslaughter of John Lunt, who, it was alleged, fell down the shaft of the pit of which Gregory was manager, in consequence of the same not being properly protected. His lordship recommended the jury to throw out the bill, as the evidence, in his opinion, did not go to show that the accused was to blame, as the accident happened partly through the deceased's own fault, and one of the witnesses deposed that Gregory was most anxious to have the mouth of the pit protected, but that in consequence of his illness he did not do so. Subsequently the grand jury reported that they had returned a verdict of a great unwillingness on the part of many of the witnesses to give evidence, and had thought it better to find no true bill, believing it might be possible that some further evidence may arise in the matter at another time. The grand jury also complained of one of the witnesses appearing in a state of intoxication before them, and his lordship said his expenses would be disallowed.

The late Mr. William Crawshaw, whose death was recorded in last week's Journal, has left the whole of his property in South Wales, including Cyfarthfa Castle, to his son, Mr. Robert Thompson Crawshaw, who for some time past has had the management of the Cyfarthfa Works, while the works in the Forest of Dean are willed to Mr. Henry Crawshaw. The other sons have annuities. Mrs. William Crawshaw retains Caversham House, near Reading, and an annuity for life. After her death the estate goes to Miss B. Crawshaw, and at her death to Mr. William Crawshaw, jun. The property in South Wales is estimated at near two millions sterling. By the provisions of the will intended was to take place four clear days after death in a common earth grave, and the men on the estate, 90 in number, were to attend and receive a pint of good ale, eatables, and gloves and handbags.

The arrivals at Swansea include—the St. Clement from Redon, with 120 tons of iron ore for Dowdalls Co.; Doerhound from Carrizal, with 560 tons of copper regulus, 200 tons of pig copper, for H. Bath and Son; Reine des Glaces from Redon, with 140 tons of iron ore for W. Crawshaw; the Sarah from Glencos, with 225 tons of copper ore; Hermilio from Aveiro, with 154 tons of copper ore, 57 tons of lead ore, and 1 ton of nickel ore, for Richardson and Co.; and the Truthful from Bilbao, with 330 tons of iron ore, for W. H. Tucker.

FOREST OF DEAN.—The month of July has proved one of the most successful months during the present year. Whether the various products of the Forest of Dean are taken separately or as a whole, it stands in very favourable contrast with any preceding period of four weeks. Taking into consideration that the maximum of trade here is coal, and this principally for household purposes, the healthy and satisfactory position of the district is very encouraging. For instance, the returns just made by the Bullo Pill branch show—Coke and coal, 22,299 tons; minerals, 344; goods, 646; total, 23,289 tons, as sent to the main line. To docks—Coal and coke, 74½; minerals, 2,507; goods, 1,086; making 10,497 tons. On the same branch, booked for South Wales from the Cinderford station—Coal, 7844; iron ore to Dowdalls, 4888; pig-iron, 3036; making in the

the traffic from the Cinderford valley 48,545 tons, as against 37,468 tons for the same feature may be said to have been a considerable increase. The same feature may be said to have been a considerable increase. The same feature may be said to have been a considerable increase.

Although the late Mr. Crawshaw, of Caversham Park, was but little known in the Forest of Dean, he having very seldom visited the district of late years, nevertheless, the day of his burial (Aug. 9) was observed, there being no doubt that he was a man of considerable influence and standing in the district.

The late gentleman was introduced to the Forest of Dean by Mr. James Teague, a Forest celebrity, and soon afterwards the Cinderford iron furnace was set in motion in a manner and spirit which showed that Mr. Crawshaw was not only possessed of capital but genius likewise—in fact, the great secret of his success was good luck, combined with practical knowledge and sound wisdom.

The Tin-plate Trade continues very brisk, and, as last week, every available hand is employed. A good demand is also made just now for forest stone, and the fine weather enables the quarry masters to push their work with the utmost vigour.

On Wednesday a fatal accident occurred at Mr. H. Crawshaw's Lightmoor Collieries. A man named Samuel Mercey was just about leaving his work, when a quantity of earth fell upon him from the roof of the place where he was engaged in his labour, killing him instantly.

TRADE OF THE SOUTH WALES PORTS.—The returns for the month of July and the corresponding month of last year were as follows:—
EXPORTS OF COAL. July, 1867. July, 1866.

Cardiff 169,768 Tons 160,224
Newport 34,027 29,142
Swansea 44,441 46,771
Llanelli 17,274 18,841

SHIPMENTS COASTWISE. July, 1867. July, 1866.
Cardiff 85,463 Tons 77,987
Newport 81,010 65,436
Swansea 32,320 23,638
Llanelli 24,146 18,676

The largest quantity of steam coal sent to one place from Cardiff was 13,343 tons to Malta, Monte Video 7785 tons, St. Nazaire 6987 tons, Constantinople 6336 tons, Singapore 5434 tons, Quebec 5036 tons, Havre 6010 tons.

Cardiff exported 15,174 tons of iron and 2637 tons of patent fuel; Swansea 1670 tons of iron, and 12,239 tons of patent fuel. Newport exported 10,536 tons of iron, of which Russia took 4889 tons, New York 1160 tons, Quebec 1120 tons, and San Francisco 765 tons.

THE PARIS EXHIBITION—No. XVI.

[FROM OUR OWN CORRESPONDENT.]

Some surprise seems to have been excited in England that complaints of national non-inventiveness should have been made by an Englishman, with no other grounds for his conclusions than a cursory examination of the several Courts of the Paris Exhibition; yet it is not Englishmen alone who are thoughtless enough to complain, with no better bases for their arguments, of the retrogression of the countries to which they belong. The English dissatisfaction is readily accounted for, or, at least, the opinion is very prevalent that the statement is not entirely disinterested on the part of those who make it. It is said that the South Kensington clique are endeavouring to make the Paris Exhibition provide them with a pretext for finding situations for a batch of their proteges, who are at present rather too numerous to be convenient, and that the idea has suggested itself of raising the cry that England is behind all other nations, in order to attempt to justify the declaration of the insufficiency of technical education in England. Now, the attempt to assimilate English and French or Belgian institutions must prove abortive, because the circumstances existing in England and on the Continent are totally different. Fortunately we cannot, in England, compel an employer to take any servants the Government may choose to select for him, and no Englishman would exactly admire the introduction of that system, even if it were provided that a jury should decide whether the preferred servant were not the best suited to his requirements. Yet, in the absence of this system, no South Kensington technical education scheme could by any chance succeed. One attempt has already been made in the same direction in the establishment of the Royal School of Mines, many of the most competent students of which have failed to obtain so high a remuneration for their labour as an ordinary mechanic; and if this be the state of affairs whilst the school has scarcely a dozen students, and has all the aid which Government can afford it, in the hope of employing its graduates, what would be the result of extension? It would almost ruin the School of Mines to send them 100 students a-year for three years, because it would create nearly 300 helpless graduates—for, whilst the Government could not provide labourer's wages for more than 5 per cent. of them, the remainder would be in the unhappy position of being without Government salary, whilst no private individual would employ them, and the School would be thenceforward shunned by all who hoped to earn a honest livelihood. Any technical education scheme emanating from the South Kensington party could only create equally helpless graduates, and for this reason—any attempt to force such a project upon Englishmen should be strenuously opposed.

The complaint which has given rise to the remarks has arisen with respect to the METALLURGICAL PRODUCTS OF BELGIUM, certain Belgian visitors to the Champs de Mars having returned to their native country with the idea that Belgium was literally lost as a metallurgical country, and that, therefore, nothing remained to them but to deplore their unhappy condition, and weep for their former greatness. But, whilst in England it is the professional party who weep, the reverse is, happily, the case in Belgium; Prof. F. KRANS, who so ably fills the chair of metallurgy in the University of Louvain, having undertaken, in a most interesting pamphlet, published by M. Guyot, of Brussels, to prove that the lamentations are at present unjustified, and are long likely to continue so. The Professor remarks that the first Belgian visitors to the metallurgical galleries were struck with the prodigies exhibited by foreigners in connection with the iron and steel manufactures. Seeing nothing in the Belgian compartment to vie with the extraordinary pieces of iron and steel work, revealing novel ideas and an entirely distinct class of workmanship, they expressed disappointment at not seeing Belgium so well represented as the neighbouring countries, amongst which she had so long taken the lead in the way of change and of progress. That there are any grounds for this great disappointment Prof. KRANS disproves, and observes that Belgium is well able to hold a good position amongst the iron-producing nations of the world, without exhibiting either monstrous canons or enormous armour-plates, and that they can well afford to leave the military powers to measure their strength in that direction, although they are ready to compete with them in any other branch of the iron trade. After repeated visits, and an attentive study of the exhibitions made by the several countries, he concludes that the best course is to adopt the views of those who, without any display of over-alarm, and without any failure to recognise the many merits of the Belgian products, think that if since 1862 Belgium has not gone back, she may not have advanced so rapidly as other nations. To what cause is that due? It is a question, say many, of money to permit the establishment of powerful machine-tool shops, and thus to extend operations. Now is this, asks Prof. KRANS, a sufficient reason? There is much room to doubt it; without believing the Belgians to be as rash in enterprises of this kind as the English, they would yield nothing to any other nation. Belgians are neither timid nor cautious, as the development of the industrial resources of the country which has already taken place amply proves. If for the

moment the purse-strings of the capitalist are difficult to unfasten, is it not because they have had so much sad experience to make them circumspect? Their prudence, then, is certainly not to be blamed, more especially as it cannot be doubted that there would be no difficulty, even at present, of finding ample capital for the establishment of any necessary works which might offer a fair prospect of success. Prof. KRANS remarks that it will be found that all the great improvements in France are due to the great knowledge and judgment of those who have taken the management of the works, and he urges that, as there is no lack of the requisite engineering skill in Belgium, they must look to other causes, and he concludes that the lack of extension is, in a great measure, due to the limited market, which compresses their operations, and prevents great efforts being made to supply uncertain markets. Belgium has also been without the advantage of international exhibitions within her territory, and has thus had less opportunity of displaying her manufacturing resources to the best advantage.

SEPARATION OF SILVER FROM LEAD—NEW PROCESS.

It is well known that the affinity of zinc for silver is greater than that of lead, yet the various attempts which have been made to take advantage of this property in connection with the extraction of silver from lead have not been attended with commercial advantage. The causes of failure have, probably, been attributable to the large quantity of zinc which has remained in the lead as prepared for the market; the treatment of scummings composed of lead, silver, and zinc have, of course, offered equal difficulties. To remove these obstacles is the object of the invention of Mr. FREDERICK CORDURIE, of Toulouse, the two characteristic features of which are, on the one hand, the employment of superheated steam to oxidise the zinc, and leave the lead and silver unattacked; and, on the other hand, the forcing of oxides of zinc and of lead through a bath of lead, from which the silver is to be separated. The lead to be treated having been melted, he subjects it for a time to increased heat, after which he adds to 100 parts of lead about 2 parts or more of zinc, taking care to stir it well in the midst of the bath in fusion, which is then left to itself, until the time when the surface begins to coagulate. This time should not be lost; the melted zinc taking possession of the silver to produce an alloy less dense and less fusible than the lead rises to the surface and begins to coagulate, while all the lead preserves its fluidity; it is now that the scumming must be performed, care being taken to remove the least possible amount of lead, but leaving none of the alloy in the bath. To remove the last traces of zinc which remain in the bath, he re-heats the bath, and leads superheated steam into it. When the superheated steam is to be introduced he covers the bath, and the steam is conveyed to the bath by a pipe fitted to the cover and dipping into the bath. The zinc oxidises under the action of the oxygen of the decomposed steam, and the oxide of zinc floats on the surface in the form of powder, which he scums off, after which the lead may be allowed to cool for the market. The hydrogen which is disengaged may draw off particles of oxide, which he then collects in a condenser.

In practice it is found that as the scummings contain lead, silver, and zinc, they cannot be completely freed from zinc by a simple distillation in a close vessel; this distillation would, moreover, have the inconvenience of allowing some of the silver to be lost. The best means of effecting a complete separation consists in oxidising the zinc in the midst of the melted alloy by a current of hot air, preferably by a jet of superheated steam, which is admitted at a more or less considerable pressure by employing a condenser, if required. The oxidised zinc, as well as a certain quantity of lead having an earthy appearance, are easily separated from the argentiferous lead in fusion by scumming or equilation. The lead is sent to be submitted to cupellation, and the oxides are regenerated, but they are previously made to traverse a bath of lead, in which they give off any silver which they may have drawn off with them, as well as traces of oxide of lead. It will thus be seen that whilst the superheated steam oxidises the zinc the lead and silver are not attacked, whilst the forced passage of the oxides in the bath of lead allows the regenerating of the zinc for use in the next operation.

Another part of Mr. Cordurie's invention, relating to the treatment of litharge, is based on the same principle of the forced passage in a bath of lead. Argentiferous lead submitted to cupellation produces rich litharge. He removes the silver which the litharge contains by making it traverse a bath of lead whilst the litharge is in fusion. The litharge which floats on the top is marketable, and the lead having become argentiferous is submitted to cupellation.

GREEN SLATES.

GREEN SLATES OF ANY SIZE, and of the CHOICEST COLOUR and QUALITY, can now be OBTAINED from the DOROTHEA WEST SLATE COMPANY (LIMITED), CARNARVON.

The "CHAMBER CROSS HOTEL," "STAR AND GARTER HOTEL" (Richmond), "LONDON BRIDGE HOTEL," and many other public buildings, are covered with these elegant slates. Orders will be executed in regular succession. Apply to Mr. THOMAS HARVEY, General Manager, 9, Segentium-terrace, Carnarvon, or 33, King-street, Cheapside, London.

BOWLING IRON COMPANY

BRADFORD, YORKSHIRE.
BEST CRUCIBLE CAST-STEEL TYRES, AXLES, CRANK AXLES, BOILER PLATES,

Also COG WHEELS, and other CASTINGS.

This company is prepared to furnish the above-mentioned articles in CAST STEEL of a very superior quality, made principally from their own well-known "BOWLING IRON."

Also BOWLING WROUGHT-IRON SOLID WELDLESS TYRES, of any size and to any section.

BAGILLT OIL COMPANY (LIMITED)

FLINT.
MANUFACTURERS OF BLACK GREASE

FOR COLLIERY WIRE ROPES, TRAMS, WAGONS, &c., 25 PER TON. TORCH AND LAMP OIL, 1s. PER GALLON (Casks free). LUBRICATING OIL, 1s. PER GALLON (Casks free).

TO COLLIERY PROPRIETORS.

BEST CHARCOAL IRON AND STEEL WIRE ROPES

Also HEMP ROPES, for MINING PURPOSES.

ELLIS LEVER,

WEST GORTON WORKS, MANCHESTER.

CHAPLIN'S PATENT STEAM ENGINES AND BOILERS OF EVERY CLASS, FOR SALE OR HIRE, at the ENGINEERING WORKS, No. 19, CORNWALL ROAD, LAMBETH, LONDON. (Opposite Waterloo Railway Station.)

THE SEACOMBE FORGE RIVET AND BOLT COMPANY

MANUFACTURERS OF BOLTS RIVETS, WASHERS, COACH SCREWS, SPIKES, SET PINS, TIE RODS, COTTER PINS, &c.;

ALSO, ENGINEERS' AND SHIPBUILDERS' FORGINGS, SMITHS' WORK, and every description of SHIPS' FASTENINGS.

WORKS.—SEACOMBE, NEAR BIRKENHEAD.

ROCHSOL'S GAS COAL.

ROCHSOL'S GAS COAL, Yielding 12,000 cubic feet of gas per ton.

Price, in trucks, Airdrie Station, 25s. per ton; and 27s. 6d. f.o.b. Glasgow, or East Coast of Scotland. For analysis, &c., apply to JAMES STRUTHERS, ROCHSOL'S COLLIERY, AIRDRIE.

THE CORNWALL BLASTING POWDER COMPANY,

ST. ALLEN GUNPOWDER MILLS, TRURO.

MANUFACTURERS OF PATENT BLASTING POWDER, ORDINARY GUNPOWDER, AND WATERPROOF SAFETY BLASTING CARTRIDGES.

THE CORNWALL BLASTING POWDER COMPANY SOLICIT PARTICULAR ATTENTION to their PATENT BLASTING POWDER, which has now been fully tested by time, and the growing estimation in which it is held by working men proves its great superiority over ordinary gunpowder.

Its WEIGHT being about TWENTY-FIVE PER CENT. LESS than ORDINARY GUNPOWDER, and EQUAL IN STRENGTH, bulk for bulk, an IMPORTANT SAVING IS EFFECTED on the score of CONSUMPTION.

It creates, on explosion, only about ONE-HALF as much SMOKE as ORDINARY GUNPOWDER, and this smoke being of a lighter nature soon passes away, and an IMPORTANT SAVING IS thus EFFECTED on the score of TIME.

It IS ADAPTED to ANY CLIMATE, DOES NOT BECOME WASTEFUL BY EXPOSURE to the ATMOSPHERE, IS NOT MORE DANGEROUS in use than ORDINARY GUNPOWDER.

Testimonials forwarded on application.

STEAM-BOILERS made by WILLIAM WILSON, LILYBANK

BOILER WORKS, GLASGOW, on the most improved principles, for home and export. All boilers made of the best material and workmanship, proved and warranted tight under a high pressure, and delivered at any railway station or shipping port in the kingdom at moderate rates. Lithograph of testimonials forwarded on application.

ROBERT LIBBY AND SON,

MINING AND SHAREDEALERS, &c., CAMBORNE, CORNWALL.

RAILWAY WAGON WORKS, BARNESLEY.

MESSRS. G. W. AND T. CRAIK

ARE PREPARED TO

SUPPLY COAL AND COKE WAGONS

OF EVERY DESCRIPTION,

Either for cash, or by preferred payments through wagon-leasing companies.

WAGONS PROMPTLY REPAIRED.

WHEATLEY KIRK,

8, ESSEX STREET, MANCHESTER.

Twenty-five years' experience as

VALUER, AUCTIONEER, AND AGENT

for the purchase or sale of

MILLS, WORKS, MINES, ESTATES, LAND, BUILDINGS, STEAM

ENGINES, ENGINEERS' TOOLS, RAILWAY AND

CONTRACTORS' PLANT, MACHINERY, &c.

[See his Monthly Circular.]

THOMAS EDINGTON AND SONS,

PHENIX IRONWORKS, GLASGOW.

MANUFACTURERS OF ALL KINDS OF GAS AND WATER

PIPES, BRANCHES, BENDS, WATER-TRAPS, TANK-PLATES,

VALVES, AND GENERAL CASTINGS.

ALSO,

RAILWAY CHAIRS AND SLEEPERS, AND GRIFFIN'S PATENT

PERMANENT WAY.

LONDON OFFICE,—63, OLD BROAD STREET.

WILSON'S PATENT SMOKELESS FURNACE.

LICENSEES AND SOLE MANUFACTURERS

HICK, HARGREAVES, AND CO., SOHO IRONWORKS, BOLTON.

These furnaces are now in full operation, and are giving most satisfactory results, both as regards economy in fuel, complete consumption of smoke, and small wear and tear of furnace. They may be seen in daily operation at these works.

THE BEVERLEY IRON AND WAGON COMPANY

(LIMITED),

MANUFACTURERS OF RAILWAY WAGONS, WHEELS

AXLES, LORRIES, CARTS, WOOD WHEELS, &c.,

IRONWORKS, BEVERLEY, YORKSHIRE.

GLAHOLM AND ROBSON,

HENDON PATENT ROPERY, SUNDERLAND,

MANUFACTURERS OF ALL DESCRIPTIONS OF STEEL,

IRON, AND HEMP ROPES for COLLIERIES, SHIPS, &c.

HERBERT AULT, ENGINEER,

DRAUGHTSMAN AND PATENTEE'S ASSISTANT,

VALUER OF MACHINERY, IRONWORKS, RAILWAY

AND COLLIERY PLANT, and other works; DESIGNER AND CON-

TRACTOR for every description of RAILWAY AND COLLIERY PLANT, CON-

TRACTORS' and other LOCOMOTIVES, HOT AIR and HOT WATER APPA-

RATUS, &c.

Preparer of models &c., for patentees, and every other assistance given upon the most moderate terms. Estimates given for taking down and erecting works and other machinery.

Applications addressed to HERBERT AULT, Netherton, near Dudley, will meet with prompt attention.

N.B.—HERBERT AULT begs to call the attention of gentlemen about to put up greenhouses or conservatories to his large assortment of designs at exceedingly low prices.

MESSRS. J. EVANS AND CO.,

MANUFACTURERS OF

MINERS' SAFETY LAMPS, &c.,

15, HENRIETTA STREET, BIRMINGHAM.

PATENT IMPROVED PICKS,

FOR COLLIERIES AND MINERS.

For terms and information, apply to the patentees,—

F. W. DAHNE, C.E., and Manager of Messrs. Vivian and Sons' Spelter

Works, Swansea; or

DAVID THOMAS, Mineral Agent, Cwm Avon, Talbach.

TO MANUFACTURERS OF PATENT FUEL, FIRE-BRICKS,

POTTERY, ARTIFICIAL MANURES, CEMENT, &c.

CARR'S PATENT DISINTEGRATOR,

For REDUCING to a FINE GRANULAR POWDER from 50 to 200 tons a day

(according to size) of any UNFIBROUS MATERIALS, whether they be SOFT

and CLOGGY, like superphosphate, wet clay, &c., or HARD and DRY, like bone

ash, coprolites, burnt earthenware, minerals, coal, &c.; also for MIXING

PURPOSES.

The aggregate work of the Disintegrators now in use already amounts to upwards of two millions of tons of material pulverised by them in a year, at a total saving to their users, in labour, power, &c., of above £20,000 per annum. It bears no resemblance whatever to any other mill in its peculiar combination and application of principles, nor yet in its mode of action and unique system of disintegrating matter, and has been proved to be the most novel, versatile, and efficient discovery in mills that has appeared since the invention of the flour-mills, upwards of thirty-three centuries ago.

An illustrated pamphlet, with full particulars of the above, and a long list of the addresses of its purchasers, will be forwarded, post free, on application to the Patentee, as below; and a 4-feet machine and model may be seen at the Paris Exhibition, British Section, Class 51.

THOMAS CARR, MONTPELIER, BRISTOL.

RED LEAD SUPERSEDED.

NEW "ANTI-CORROSION METALLIC PAINT."

For some years past Messrs. PEACOCK and BUCHAN have been making careful experiments with an ECONOMICAL and entirely new metallic mixture of an ANTI-CORROSION nature, to supersede RED LEAD as an UNDERCOATING for iron ships' bottoms, and for priming and painting their hulls outside and in, also all kinds of out and indoor ironwork, railway plant, &c., as well as for building woodwork, stone, and stucco, &c. Any colour paint will lay on over it. The proprietors have now perfected this metallic paint, and it will be found considerably cheaper than RED LEAD, at the same time effectually preserving the iron from rust, scaling, and decay.

It is ground in oil by steam-power, and packed in ironbound casks from 1 to 3 cwt. each. Price, delivered at Southampton, 32s. 6d. per cwt., packages included. Apply, in London, to W. J. MOYSEY, 39, Upper East Smithfield; and, in Southampton, to Messrs. PEACOCK and BUCHAN, or their accredited agents in all the principal cities and seaports of the kingdom.

INDIA-RUBBER, GUTTA-PERCHA, AND TELEGRAPH

WORKS COMPANY (LIMITED), MANUFACTURERS OF

VULCANISED INDIA-RUBBER

BUFFER SPRINGS for LOCOMOTIVES and RAILWAY TRUCKS, VALVE

SHEET, WASHERS, SUCTION and DELIVERY HOSE, TUBING for

GAS, &c., MACHINE BELTING, ELASTIC STEAM PACKING

in ROPE, SHEET, and RINGS, &c., &c.

EBONITE

SHEET, PUMPS, TAPS, TUBING, &c., for acids and vinegar; PHOTO-

GRAPHIC and SURGICAL ARTICLES, SPEAKING TUBING, &c.

GUTTA-PERCHA

SHEET, TUBING, PUMP BUCKETS, VALVES, MACHINE BELTING; VES-

SSELS for chemicals and acids, &c.; WATERPROOF CLOTHING,

HOT-WATER CUSHIONS, MATTING, GROUND SHEETS,

APRONS, WAGON COVERS, &c., &c.

TELEGRAPH INSTRUMENTS,

INSULATORS, BATTERIES, INSULATED WIRE, and every description of

TELEGRAPH APPARATUS and STORES.

Vulcanised India-rubber specially prepared to withstand the action of Tropical climates.

STRONG WIREWORK, the cross wires equally bent; also BEST

STAMP GRATES, both of iron and copper, and punched copper plates;

DITTO TUBED. All the above promptly supplied at

W. ESCOTT'S MINING MATERIAL DEPOT,

TAVISTOCK, DEVON.

NITRO-GLYCERINE, OR NOBEL'S PATENT BLASTING

OIL.—The EXPLOSIVE FORCE of this BLASTING OIL is TEN TIMES

that of GUNPOWDER, and the ECONOMY and SAVING in TIME, LABOUR,

and COST in removing granite and hard rock, in sinking shafts, driving

tunnels, and opening forward in close ends is immense.

It will not explode from a spark or fire, but from concussion alone, and is consequently much less dangerous than gunpowder or gun-cotton.

Being heavier than water it sinks to the bottom of a wet hole, no other tamping than water being required.

One charge of this blasting oil, which is now being used with wonderful effect in all the largest slate quarries in North Wales, will displace as much slate rock as four or five charges of gunpowder; and its great force, acting on a large quantity of good slate rock, shakes and displaces it at the natural joints, or cracks, without damaging the slabs nearly so much as the more numerous blasts from any other blasting material would do.

This invaluable quarrying agent may now be obtained from Messrs. WEBB and Co., Carnarvon, sole consignees from the patentee.

SALE BY AUCTION, AT REGENT IRONWORKS, BILSTON.

MR. J. GETTINGS has received instruction from the trustees of Messrs. A. BEARD and SONS, and T. S. SMITH and Co., TO SELL the whole of their LOOSE STOCK and WORKING MATERIALS, on Monday and Tuesday, the 19th and 20th, and on Monday, the 26th August.

The STOCK consists of 190 tons of first-class PIG-IRON; 500 tons of NEW and OLD CASTINGS, WROUGHT and SCRAP IRON, chilled and grained ROLLS, bar and billet ROLLS; large LATHE, with speeds, poppets, &c.; TWO small direct-action ENGINES; CIRCULAR SHEARS; 150 tons FLOOR PLATES, scales and weights; AVERY'S WEIGHING MACHINE.

Puddlers' and millmen's tools, blacksmiths' tools, bellows, anvils, quantity of steel, bull dog and tap cinder, calcined pottery, mine, fire-bricks, and clay.

About 10 tons of hot and cold GREASE; about 20 tons of best and common OILS; quantity of Russian TALLOW; 6 in., 4½ in., and 3 in. WAGONS, CARTS, and TROLLEYS; 14 WOOD and IRON CANAL BOATS; PUDDLING MACHINES.

The whole of the OFFICE FURNITURE, FIRE-PROOF SAFES, and a large quantity of sundries.

Sale to commence at Eleven o'clock each day, to the minute.

Catalogues may be had on and after Tuesday, 13th inst., from the Auctioneer, Albert Cottage, Bilston; and from Messrs. BROWN and FELLOWS, Solicitors, Bilston; from Messrs. DUGGAN, LEWIS, and LEWIS, Solicitors, Walsall; and Mr. G. T. GREEN, Accountant, 19, Temple-street, Birmingham.

IN the course of the month of FEBRUARY, 1868, on a day to be fixed hereafter, will be PUBLICLY SOLD, to the highest bidder, by the COMPANY FOR THE PROMOTION OF OPENING MINES IN NETHERLANDS INDIA, in liquidation, and after future approval by Government, THE CONCESSION FOR THE WORKING OF THE COAL MINES AT BANJOE-IRANG (KALANGAN), situated in the residency south, and eastern division of BORNEO, together with the WORKS at the MINES, erected by the company, in such condition as they may be found on being taken over.

Information can be obtained at Amsterdam, from Messrs. HEKKEREN and Co., whilst the original documents are kept for investigation at the office of Messrs. TIEDEMAN and VAN KERCHER at this place.

J. A. DE LANGE, G. A. DE LANGE, D. JANETTE WALEN.

Batavia, 12th April, 1867.

ROSSMORE SLATE COMPANY (LIMITED).

BY TENDER.

TO BE SOLD, BY TENDER, all the ESTATE and INTEREST

OF THE ROSSMORE SLATE COMPANY (LIMITED), of and in the LANDS and PREMISES following—that is to say:

THE LANDS OF ROSSMORE.

In the parish of DURRUS, barony of west division of WEST CARBERRY, county of CORK, under agreement for lease from the Earl of Bandon for the unexpired term of 30 years, from the 25th March, 1863, with full power to raise and obtain all SLATES, OCHRES, MINERALS, and MINERAL SUBSTANCES, of every kind, subject to a royalty of 1-24th for the first four years, 1-20th for the remaining 26 years, with a minimum rent of £10 per annum. The above lands have a seaboard of several miles.

Also, all the ESTATE and INTEREST of the above company and of all that PARCEL OF THE LANDS OF SKULL AND ARDMANAGH situate in the parish of SKULL, barony of WEST CARBERRY, county of CORK, and containing 1364A. 3R. 25P. statute measure, held under lease from the Ecclesiastical Commissioners for Ireland for the unexpired term of 31 years, from the 12th May, 1864, with power to raise and get all OCHRES, RATHS, SLATES, MINERALS, and MINERAL SUBSTANCES, subject to a royalty of 1-16th part thereof, and a minimum rent of £50 per annum.

Tenders for the purchase of each of the above properties, according to the estate of the company in them, to be sent in on or before the 29th day of August to Mr. J. T. HALL, engineer, 4, Clayton-square, Liverpool, the liquidator of the company duly appointed; or to Mr. W. W. DUFFIELD, 41, Lord-street, Liverpool, solicitor.—Liverpool, 5th August, 1867.

ALSTON, CUMBERLAND.

FOR SALE, BY PRIVATE BARGAIN, the WHOLE INTEREST

of the present shareholders in

BIRCHY BANK MINE.

The take extends in length 600 fathoms adjoining the Rodderupfell Mining Company's ground on the west, and in breadth 20 fathoms north of the north vein, and 20 fathoms south of the south vein.

Application to be made to Mr. JOHN PEART, Mining Agent, Alston; or to H. INGLEDEW, Esq., Solicitor, Dean-street, Newcastle-on-Tyne.—July 29.

FIRST-CLASS SLATE AND SLAB QUARRY.

FOR SALE, IN MERIONETHSHIRE.

THE VEIN more than ONE MILE IN LENGTH, and so intersected by valleys that four or five quarries might be all working at the same time. The slate is good blue colour, and free from pyrites, spots, and stripes. The vein on the same range as the ABERLEFFENY VEIN, but more than twice the width of that celebrated vein. Already proved by two levels, and excellent slates made. Slabs of the largest size could be at once manufactured. The top of the vein has been removed for a large area, and found to consist only of about 2½ feet of soil, and therefore the slate vein can be worked as an OPEN QUARRY. Room for six or eight galleries, and ample space for waste. Water in abundance for all kinds of appliances, and miles distant from a railway. Satisfactory reasons for the disposal of the property will be given.

For particulars, apply to M. A. MOON, Esq., F.G.S., Whitehaven.

A RED ASH COLLIERY FOR SALE, the quality of the COAL

being the BEST in SOUTH WALES for DOMESTIC PURPOSES (known as the celebrated MYNDYDYSI, W. N. VEIN).

The colliery is now in full working order, capable of yielding daily 60 tons of large coal. Such an investment is rarely to be found, this vein being nearly worked out in the county of Monmouth. A respectable party will be treated with on liberal terms. Satisfactory reasons can be given by the present proprietors for wishing to dispose of their colliery.

For full particulars, apply to "A. B." Post Office, Newport, Monmouthshire.

FOR SALE, and may be seen at the Ashburnham Mines, ONE

56 in. PUMPING ENGINE, with TWO 11 ton CORNISH MADE BOILERS.

ONE 40 in. PUMPING ENGINE, only made a short time, and as good as new, with an 11 ton BOILER. A 24 in. WHIM ENGINE, with stamps attached.

ONE 11 ton BOILER. Several WATER-WHEELS of various sizes, one with a very excellent drawing machine attached. Pumps and materials of all sorts and sizes.—Application may be made to Mr. W. MATTHEWS, engineer, Tavistock, or as seen on application to people in charge of the mine.

THE COLCHARTON COPPER MINING COMPANY

(LIMITED), TAVISTOCK, DEVON.

Capital £7500, in 3000 shares of £2 10s. each.

Deposit, 5s. per share on application, £1 on allotment, and the remainder at call. No call to exceed 10s. per share, or to be made at less intervals than three months.

This mine, situated in one of the richest mineral districts in Devon, and in immediate contiguity to the Great Devon Consols and the Bedford United Mines, two of the most productive copper mines in England, offers a favourable opportunity for investment.

It is confidently believed by competent judges that this mine will be as productive as any in the neighbourhood, the lodes which have been so remunerative in the Great Devon Consols and the Bedford United Mines passing through the property.

All the costly work on the mine has been carried out by the late company, and this company has been formed for the purpose of further carrying on and developing the mine. The works are already in progress, and being carried on vigorously.

Two-thirds of the capital have been subscribed by shareholders in the late company, and the other third is now offered to the public.

Applications, accompanied with cheque or Post-office Order for amount of deposit, may be sent to the secretary, Mr. WILLIAM HUGHES, 30, Gracechurch-street, E.C., from whom any further information may be obtained.

THE OVENS GOLD QUARTZ MINES COMPANY

(LIMITED).

Registered with Limited Liability, 25th April, 1867.

Capital £20,000, in 20,000 shares of £1 each, fully paid on allotment, of which shares 9000 are reserved as part payment to the vendor for the estate.

2500 are already applied for, and the remaining 21,500 will be allotted to the public according to priority of application.

CHAIRMAN.

The Hon. JAMES TOBIN, Neville-street, Onslow-square, S.W.

BANKERS—The London and County Bank, 21, Lombard-street, and town branches.

BROKER—John Inchbald, Esq., 2, Copthall-court, City, and Stock Exchange.

OFFICES.—134, FENCHURCH STREET, CITY.

This company is formed for the purpose of working the famous estate, called "The Ovens," on the promontory known as The Ovens Gold Fields, jutting out five miles into the Atlantic Ocean, near Lunenburg Harbour, Nova Scotia.

Thirty-three lodes of auriferous quartz have already been discovered on the property, yielding silver as well as gold, assays of which, by Messrs. Johnson and Matthies, Mr. Squires, and Mr. Robbins, prove the average yield to be greater than that of any other gold mines yet introduced to the public.

The gold mines of Nova Scotia are now making larger returns per man per annum than any other gold mines in the world, and the directors submit the following certificate of the Chief Commissioner of Mines of Nova Scotia, as the best evidence of the prospect of success of this company.

CERTIFICATE.

"I have no hesitation in saying, from my own knowledge and personal inspection, that one of the most inviting fields for the successful prosecution of gold quartz mining is 'The Ovens Mining District.' The gold found in the auriferous alluvium, and the fine specimens of gold-bearing quartz, which I purchased and sent to the Paris Exhibition, are conclusive evidence of the rich yield that will be realised from capital invested in the Ovens under careful management."

"P. S. HAMILTON, Chief Commissioner of Mines."

"Halifax, May 15, 1867."

Applications for prospectuses and shares may be made to the directors, bankers, and brokers. Reports, views of the estate, and a quantity of gold quartz, with assays of same, may be seen at the offices, 134, Fenchurch-street; also at Mr. ROBBINS'S, 372, Oxford-street, W.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the HALLENBEAGLE MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED, on or before the 27th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES, and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.

Dated Registrar's Office, Truro, August 15, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the HALLENBEAGLE MINING COMPANY.—By an Order, made by His Honor the Vice-Warden of the Stannaries, in the above matter, dated the 14th day of August instant, on the petition of Edward King, of 22, Austinfriars, in the City of London, a contributory of the ABOVE-NAMED COMPANY, it was ORDERED that the said HALLENBEAGLE MINING COMPANY should be WOUND-UP by this Court under the provisions of the Companies Act, 1862.

JOSEPH ROBERTS, Truro; Agent for Messrs. R. W. Childs and Batten, 25, Coleman-street, London (Solicitors for the Petitioner).

Dated Registrar's Office, Truro, August 15, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH PORTHILL MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED, on or before Wednesday, the 28th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, August 14th, 1867.

JOSEPH ROBERTS, Truro; Agent for Messrs. R. W. Childs and Batten, 25, Coleman-street, London (Solicitors for the Petitioner).

Dated Registrar's Office, Truro, August 15, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH DOLCOATH MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED, on or before Wednesday, the 28th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, August 14th, 1867.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Truro, August 10, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH DOLCOATH MINING COMPANY.—By an Order made by His Honor the Vice-Warden of the Stannaries in the above matter, dated the 10th day of August instant, on the joint petition of William Harvey, Henry Whitford, John West, William West, William Rawlings and William Husband, carrying on business at Hayle, within the said Stannaries, under the style or firm of Harvey and Co., creditors of the said company, it was ORDERED that the said NORTH DOLCOATH MINING COMPANY should be WOUND-UP by this Court under the provisions of the Companies Act, 1862.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Truro, August 10, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL NORTH GRYLLS MINING COMPANY (LIMITED).—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED, on or before Wednesday, the 28th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, August 14th, 1867.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Registrar's Office, August 15, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN RE PAR CONSOLS MINE.

Polkinghorne v. Hutchinson and Others, dated the 23rd day of July last, at the Registrar's Office, Truro, on Wednesday, the 28th day of August instant, at Twelve o'clock at noon precisely.

2 (6400th) PARTS or SHARES of the defendant, J. W. Hutchinson.

1 (6400th) PART or SHARE of the defendant, Ada Joseph.

6 (6400th) PARTS or SHARES of the defendant, Thomas Lucas.

4 (6400th) PARTS or SHARES of the defendant, John Page.

20 (6400th) PARTS or SHARES of the defendant, J. Paul.

50 (6400th) PARTS or SHARES of the defendant, William John Sharpe.

5 (6400th) PARTS or SHARES of the defendant, Richard Fox.

20 (6400th) PARTS or SHARES of the defendant, John Grimes.

(Agents for H. W. Head, plaintiff's solicitor, Exeter).

Dated Registrar's Office, August 15, 1867.

In Chancery.

SISTON AND MANGOTSFIELD, GLOUCESTERSHIRE.

TO BE SOLD, BY AUCTION, pursuant to an Order of the High

Court of Chancery, made in a Cause "BUSH v. PETERSON," with the approbation of the Vice-Chancellor Sir RICHARD MALLES, the Judge to whose Court such Cause is attached, in several lots, by Messrs. ALEXANDER and DANIEL, the persons appointed by the Judge for the purpose, at the King's Arms Inn, Kingswood Hill, in the county of Gloucester, on Tuesday and Wednesday, the 17th and 18th days of September, 1867, at One o'clock in the afternoon on each day.

Several FREEHOLD MESSUAGES, COTTAGES, GARDENS, and valuable pieces of LAND, including the Maypole Inn and the Horse Shoe Inn, upon the Siston Warren, in the parish of Siston, in the county of Gloucester, and the enclosed warren or common, containing about 74 acres, with the warren's house, rabbit warren, COAL PIT, BUILDINGS, and SHAPES, and the MINERALS under the warren, both enclosed and unenclosed, and Midland Branch Railway Company. THE REVERSION IN FEE, expectant on the decease of lives, of several MESSUAGES, COTTAGES, and LANDS, including the Black Horse Inn, upon Siston Warren. A most compact and valuable ESTATE, comprising FARM-HOUSE and HOMESTEAD, a dwelling-house and malt-house, orchards, and arable and pasture lands, in the parish of Siston aforesaid, and known as the Stumps' Cherry Orchard and Sartain's Estate, and containing altogether about 78 acres. Several SHARES in the MINERALS under an estate in the said parish of Siston, called Brook Farm, containing about 71 acres of land. A valuable piece of PASTURE LAND, called Tilley's Ground or Griffin Ground, situate near the Griffin Inn, in the said parish of Siston, containing about seven acres, and now or lately occupied by Mr. Edward Bigwood.

MANGOTSFIELD.

THREE COTTAGES, and a shed or smith's shop, in the street of Mangotsfield, in the said county of Gloucester. THE REVERSION IN FEE, expectant on the decease of a lady aged 65 years, in a valuable FREEHOLD FAMILY RESIDENCE, with the garden, stable, and offices, known as Mangotsfield House, in Mangotsfield aforesaid. A FOURTH PART of the RECTORIAL TITHE RENT CHARGE, arising out of lands in Mangotsfield, producing annually the fixed sum of £19 13s. 4d. THE TITHE RENT CHARGE, commuted at £2 10s. 4d. per year, payable out of lands in Mangotsfield aforesaid, occupied by Mr. Chas. Payne.

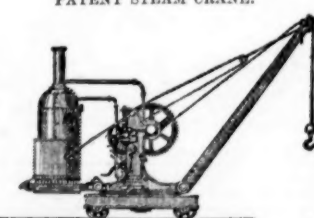
All the property, except Mangotsfield House, may be viewed on application to the respective tenants, and Mangotsfield House may be viewed by cards, which will be supplied on application to the vendor's solicitor.

Particulars and conditions, with plans, may be had, gratis, at the place of sale; of the Auctioneers, Broad-street, Bristol; Mr. JAMES MARMONT, Surveyor, Corn-street, Bristol; of the following solicitors in London—Messrs. MEAD and DABNEY, 2, King's Bench-walk, Temple; Messrs. MEREDITH and LUCAS, 8, New-square, Lincoln's Inn; Messrs. POOLE and GAMLEN, 3, Gray's Inn-square; Messrs. WALTER and MOORE, 8, Southampton-street, Bloomsbury; Messrs. MATTHEWS and GREY, 68, Lincoln's Inn-fields; Messrs. NEWBORN and EYAN, Nicholas-lane, Lombard-street; and of the following solicitors in Bristol—Messrs. STANLEY and WABROUGH, Corn-street; Mr. CHAS. HARRIS, Small-street; Mr. STAMFORD P. PARKER, Nicholas-chambers; Mr. HENRY H. BECKINGHAM, Broad-street; and of the vendor's solicitor, Mr. GEORGE F. FOX, 26, Corn-street.

FREDERICK ERASMUS EDWARDS, Chief Clerk.

Dated this 7th day of August, 1867.

PATENT STEAM CRANE.



TO LIFT, RADIATE, AND TRAVEL BY STEAM.

PARIS EXHIBITION, CLASS 52.

MEDAILLE D'HONNEUR.

APPLEBY BROTHERS,

EMERSON STREET, SOUTHWARK,

LONDON, S.E.,

Engineers and Patentees of STEAM CRANES, DONKEY PUMPS, &c.,

PATENT DONKEY PUMPS.

Ram 1½ in. 2 in. 2½ in. 3 in. 3½ in. 4 in. 4½ in. 5 in. 5½ in. 6 in. 6½ in. 7 in. 7½ in. 8 in. 8½ in. 9 in. 9½ in. 10 in. 10½ in. 11 in. 11½ in. 12 in. 12½ in. 13 in. 13½ in. 14 in. 14½ in. 15 in. 15½ in. 16 in. 16½ in. 17 in. 17½ in. 18 in. 18½ in. 19 in. 19½ in. 20 in. 20½ in. 21 in. 21½ in. 22 in. 22½ in. 23 in. 23½ in. 24 in. 24½ in. 25 in. 25½ in. 26 in. 26½ in. 27 in. 27½ in. 28 in. 28½ in. 29 in. 29½ in. 30 in. 30½ in. 31 in. 31½ in. 32 in. 32½ in. 33 in. 33½ in. 34 in. 34½ in. 35 in. 35½ in. 36 in. 36½ in. 37 in. 37½ in. 38 in. 38½ in. 39 in. 39½ in. 40 in. 40½ in. 41 in. 41½ in. 42 in. 42½ in. 43 in. 43½ in. 44 in. 44½ in. 45 in. 45½ in. 46 in. 46½ in. 47 in. 47½ in. 48 in. 48½ in. 49 in. 49½ in. 50 in. 50½ in. 51 in. 51½ in. 52 in. 52½ in. 53 in. 53½ in. 54 in. 54½ in. 55 in. 55½ in. 56 in. 56½ in. 57 in. 57½ in. 58 in. 58½ in. 59 in. 59½ in. 60 in. 60½ in. 61 in. 61½ in. 62 in. 62½ in. 63 in. 63½ in. 64 in. 64½ in. 65 in. 65½ in. 66 in. 66½ in. 67 in. 67½ in. 68 in. 68½ in. 69 in. 69½ in. 70 in. 70½ in. 71 in. 71½ in. 72 in. 72½ in. 73 in. 73½ in. 74 in. 74½ in. 75 in. 75½ in. 76 in. 76½ in. 77 in. 77½ in. 78 in. 78½ in. 79 in. 79½ in. 80 in. 80½ in. 81 in. 81½ in. 82 in. 82½ in. 83 in. 83½ in. 84 in. 84½ in. 85 in. 85½ in. 86 in. 86½ in. 87 in. 87½ in. 88 in. 88½ in. 89 in. 89½ in. 90 in. 90½ in. 91 in. 91½ in. 92 in. 92½ in. 93 in. 93½ in. 94 in. 94½ in. 95 in. 95½ in. 96 in. 96½ in. 97 in. 97½ in. 98 in. 98½ in. 99 in. 99½ in. 100 in. 100½ in. 101 in. 101½ in. 102 in. 102½ in. 103 in. 103½ in. 104 in. 104½ in. 105 in. 105½ in. 106 in. 106½ in. 107 in. 107½ in. 108 in. 108½ in. 109 in. 109½ in. 110 in. 110½ in. 111 in. 111½ in. 112 in. 112½ in. 113 in. 113½ in. 114 in. 114½ in. 115 in. 115½ in. 116 in. 116½ in. 117 in. 117½ in. 118 in. 118½ in. 119 in. 119½ in. 120 in. 120½ in. 121 in. 121½ in. 122 in. 122½ in. 123 in. 123½ in. 124 in. 124½ in. 125 in. 125½ in. 126 in. 126½ in. 127 in. 127½ in. 128 in. 128½ in. 129 in. 129½ in. 130 in. 130½ in. 131 in. 131½ in. 132 in. 132½ in. 133 in. 133½ in. 134 in. 134½ in. 135 in. 135½ in. 136 in. 136½ in. 137 in. 137½ in. 138 in. 138½ in. 139 in. 139½ in. 140 in. 140½ in. 141 in. 141½ in. 142 in. 142½ in. 143 in. 143½ in. 144 in. 144½ in. 145 in. 145½ in. 146 in. 146½ in. 147 in. 147½ in. 148 in. 148½ in. 149 in. 149½ in. 150 in. 150½ in. 151 in. 151½ in. 152 in. 152½ in. 153 in. 153½ in. 154 in. 154½ in. 155 in. 155½ in. 156 in. 156½ in. 157 in. 157½ in. 158 in. 158½ in. 159 in. 159½ in. 160 in. 160½ in. 161 in. 161½ in. 162 in. 162½ in. 163 in. 163½ in. 164 in. 164½ in. 165 in. 165½ in. 166 in. 166½ in. 167 in. 167½ in. 168 in. 168½ in. 169 in. 169½ in. 170 in. 170½ in. 171 in. 171½ in. 172 in. 172½ in. 173 in. 173½ in. 174 in. 174½ in. 175 in. 175½ in. 176 in. 176½ in. 177 in. 177½ in. 178 in. 178½ in. 179 in. 179½ in. 180 in. 180½ in. 181 in. 181½ in. 182 in. 182½ in. 183 in. 183½ in. 184 in. 184½ in. 185 in. 185½ in. 186 in. 186½ in. 187 in

BICKFORD'S PATENT SAFETY FUSE

Obtained the PRIZE MEDALS at the ROYAL EXHIBITION of 1851; at the INTERNATIONAL EXHIBITION of 1862, in London; at the IMPERIAL EXHIBITION held in Paris, in 1855; and at the INTERNATIONAL EXHIBITION, in Dublin, 1865.



BICKFORD, SMITH, AND CO.
of TUCKINGMILL, CORNWALL, MANUFACTURERS of PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—
EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

PRENTICE'S GUN COTTON
COMPRESSED CHARGES
FOR MINING AND QUARRYING.

The principle thus introduced insures the most perfect attainment of the points essential for the safety and stability of the material, at the same time securing the highest effective power. A charge of any given size exerts six times the explosive force of gunpowder.
The enormous power confined in a short length at the bottom of the hole allows of a much greater amount of work being placed before each blast, saving considerably in the labour of drilling.
Charges are made of every diameter required, the length varying with the diameter. Any number may be placed in a hole. Each charge is fully equal to one-fifth of a pound of powder.

PRICES.
Per case, containing 500 charges of any diameter 35s.
Per half case, containing 250 charges of any diameter 18s.
Per quarter case, containing 125 charges of any diameter 9s.

TERMS.—CASH.
MANUFACTURED BY
THOMAS PRENTICE AND CO., 82, GRACECHURCH STREET, LONDON.
WORKS, STOWMARKET.
LONDON AGENT,—MR. THORNE.

JOHN AND EDWIN WRIGHT,

PATENTEES.
(ESTABLISHED 1770.)
MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED

PATENT FLAT AND ROUND WIRE ROPES,
From the very best quality of charcoal iron and steel wire.
PATENT FLAT AND ROUND HEMP ROPES.
SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE, TARPULING, OIL SHEETS, BRATTICE CLOTHS, &c.

UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM.
No. 2, OSWALD STREET, GLASGOW.
CITY OFFICE No. 5, LEADENHALL STREET, LONDON, E.C.

THOMAS TURTON AND SONS,

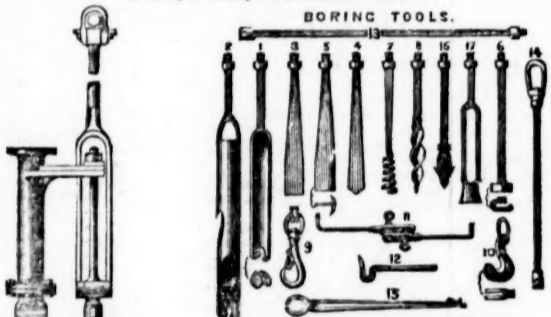
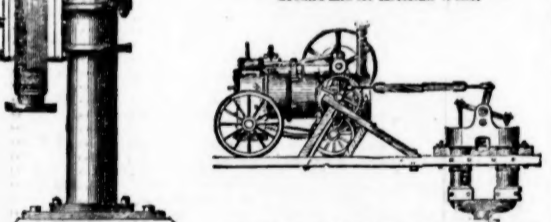
MANUFACTURERS OF
CAST STEEL for PUNCHES, TAPS, and DIES,
TURNING TOOLS, CHISELS, &c.
CAST STEEL PISTON RODS, CRANK PINS, CON-
NECTING RODS, STRAIGHT AND CRANK
AXLES, SHAFTS and
FORGINGS of EVERY DESCRIPTION.
DOUBLE SHEAR STEEL, FILES MARKED
BLISTER STEEL, T. TURTON.
SPRING STEEL, EDGE TOOLS MARKED
GERMAN STEEL, WM. GREAVES & SON.

Locomotive Engine, Railway Carriage and Wagon
Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD.
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.,
Where the largest stock of steel, files, tools, &c., may be selected from.

S. OWENS AND CO. (LATE CLINTON AND OWENS),

WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.,
HYDRAULIC AND GENERAL ENGINEERS,
MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND,
HORSE, WATER, OR STEAM POWER.

Boring Tools of every description, for Testing
Ground and for Artesian Wells.Portable Engines with Double Barrel, or other
Pumps, on Hire or Purchase.

Improved Double-action Pumps.
Full information, Drawings, Price Lists, &c., relating to the above, and to Hydraulic
Machinery of all descriptions—Cranes, Pulleys, Blocks, and Hoisting Tackle of shipping
manufacture—may be had on application.

DERING'S PATENT ENGINE FOR TUNNELLING
MINING, QUARRYING, AND BLASTING IN OPEN CUTTING.

A SAVING OF THIRTY TO SIXTY PER CENT. in labour effected where the
cost of adit exceeds £6 per fathom.
TIME FOR DRIVING ADIT REDUCED FIFTY TO SEVENTY-FIVE per cent.

"These drilling engines are in daily use at the zinc mines of the Vieille Mon-
tagne," &c.—Times, Dec. 24, 1866.

"One of these machines was shown to work in an exceedingly satisfactory
manner upon hard granite."—Engineering, Dec. 21, 1866.

Particulars may be obtained of Mr. DERING, or Mr. GROVER, 30, Duke-street,
Westminster.

BASTIER'S CHAIN PUMP.

This patent pump is the MOST EFFICIENT in existence for LIFTING
ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth
of 170 ft. may be seen at work daily, on application to the

SOLE LICENSEES,
Messrs. J. JACKSON AND CO., ENGINEERS, 17, GRACECHURCH
STREET, LONDON, E.C.

Who SUPPLY PUMPS and LICENCES.

Communications to Mr. Bastier, the patentee, to be sent to the same address.

AGENTS FOR THE COUNTIES OF NORTHUMBERLAND AND DURHAM, YORKSHIRE,
DERBYSHIRE, AND NORTH STAFFORDSHIRE,
Messrs. THOMAS GREENIE, MINING OFFICE, NORTHGATE,
DARLINGTON.

AGENTS FOR SCOTLAND,
Messrs. P. and W. MACLELLAN, 127 and 129, TRONGATE, GLASGOW.

CREASE'S NEW AND IMPROVED PATENT BORING
MACHINE.

In consequence of the various and IMPORTANT IM-
PROVEMENTS that an experience of several years has enabled the inventor
to introduce into these machines, he can with the most perfect confidence re-
commend them for their increased DURABILITY, SIMPLICITY, ECONOMY,
and RAPIDITY to be attained by their adoption in DRIVING LEVELS or DRIFTS.

The inventor has made arrangements to supply them in any quantity, with
WARRANTY. Orders executed according to their date of priority.

Address, EDWARD S. CREASE, Tavistock, Devon.

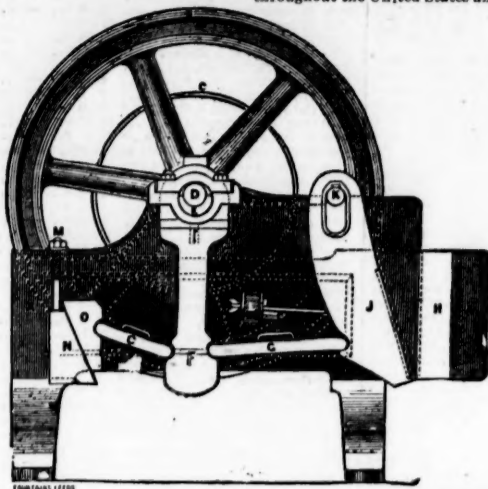
IMMENSE SAVING OF LABOUR.

TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT
GRINDERS, MCADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,
OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and
throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had
one of your stone breakers in use during the last twelve months, and Captain
Morcom reports most favourably as to its capabilities of crushing the materials
to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company, JAMES WILLIAMS.

H. R. Marsden, Esq.

Eaton Emery Works, Manchester.—We have used Blake's patent stone breaker
made by you, for the last 12 months, crushing emery, &c., and it has given every
satisfaction. Some time after starting the machine a piece of the movable jaw
about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of
the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so
simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work ad-
mirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes,
for fine road metal, free from dust. Messrs. ORD and MADDISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons
of limestone or ore per day (10 hours), at a saving of 4d. per ton. JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break
10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving
of labour of about 20 men, or \$75 per day. The high estimation in which
we hold your invention is shown by the fact that Mr. Park has just ordered
third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

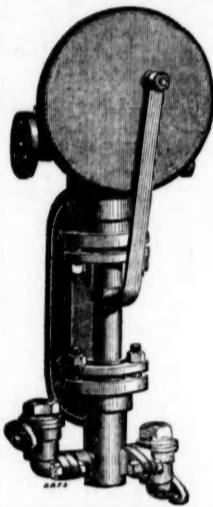
H. R. MARSDEN, SOHO FOUNDRY,

MEADOW LANE, LEEDS,

ONLY MAKER IN THE UNITED KINGDOM.

THE NEW PATENT INJECTOR,
FOR FEEDING BOILERS AND RAISING WATER FOR OTHER PURPOSES.

BY ROYAL LETTERS PATENT, No. 1539, DATED 2d JUNE, 1866.



FRONT ELEVATION.

PRICES, DELIVERED IN LONDON:—

Size.	Ram.	Stroke.	Approx. horse-power	Approximate gallons thrown per hour.				Price.
No. 4	In.	In.	boiler supplied.	At 100 rev.	150 rev.	200 rev.	p. min.	
4	1½	3	15	115	172	230		£10 10
5	1¾	3	22	180	270	360		12 12
6	1¾	4	30	240	360	480		14 14
7	2¼	4	40	345	517	690		17 0
8	2½	5½	55	475	712	950		19 10
9	2½	5½	75	585	877	1170		22 10
10	2¾	6½	90	720	1080	1440		25 10
11	3	6½	110	870	1305	1740		28 10
12	3¼	8	120	1030	1545	2060		31 10
14	3¾	8	230	2450	3675	—		40 0
16	3¾	8	460	4900	7350	—		55 0

* The two last are double-acting.

Steam Regulator Valves, and also Check Valves, specially made to suit these Engines, can be supplied.

Terms Net Cash on Delivery.

Each Injector is guaranteed to work efficiently, and any one failing to give satisfaction may be returned.

A CIRCULAR, WITH FULL EXPLANATION AND COMPARISONS, WILL BE SENT ON
APPLICATION.

BROWN, WILSON, AND CO.,

No. 80, CANNON STREET, E.C.; AND VAUXHALL IRONWORKS, S., LONDON.

PARIS EXHIBITION, 1867.—AWARDED THE ONLY FIRST-CLASS MEDAL FOR CRUCIBLES.

SILVER MEDALS, CLASSES 40—47.

THE PATENT PLUMBAGO CRUCIBLE COMPANY.

SOLE MANUFACTURERS UNDER MORGAN'S PATENT,

BATTERSEA WORKS, LONDON, S.W.

These Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin, 1865; New
Zealand, 1865; and Oporto, 1865.

They have been in use for many years in the English, Colonial, French, and other Foreign Mints; the English, French, and other Arsenals; and have been
adopted by most of the large Engineers, Founders, and Refiners at Home and Abroad.

The capabilities which have now for more than twelve years distinguished these Crucibles are the following:—

Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and other ordinary metals
is forty to fifty pourings, in some cases reaching one hundred. They never crack, and heat more rapidly than any other kind. One annealing only is required.
Change of temperature has no effect. They can when hot from the furnace be dipped in cold water with safety. The saving of labour and metal is very great.
In Steel Melting the saving of fuel has been demonstrated to amount to a ton and a half to every ton of steel used. For Zinc they last longer than iron pots, and
save the great loss which arises from mixture with iron. Those for Malleable Cast-iron show an average working of seven days, doing each day nearly double
the work of any other crucible.

As these crucibles last much longer than any others, it follows that the saving of metal must be great, because to each worn crucible a quantity of metal ad-
heres. In fact, comparing these with other crucibles, the saving of metal and fuel is more than equivalent to their cost.



COVER.



STIRRER.



STAND.

A are made in sizes varying from 9 ozs. to any required capacity, and are marked by the quantity of kilograms they will contain; thus No. 100 will contain
100 kilograms.
B differ in shape, but correspond in all other respects with A, and are similarly marked.
C are marked in English pounds—thus, a crucible marked 60 will contain 60 lbs.
D are made expressly for steel in various sizes.

CRUCIBLES MADE TO ANY SHAPE AND SIZE TO ORDER.

Some unprincipled manufacturers having made

such close imitations of our Trade Mark as cannot

fail to deceive the public, we have deemed it ad-

visable to alter our Mark as here shown. It will

In all future orders, please specify "MORGAN'S PATENT," and address to

BATTERSEA WORKS, LONDON, S.W.



be observed that the alteration consists in the

OMISSION of the words—"DEPOTS AT PARIS

AND ROTTERDAM," and the ADDITION of the

words—"MORGAN'S PATENT."

NOTES ON THE MINES OF THE RIO TINTO DISTRICT:

Containing a DETAILED REPORT upon the MINES and on the MEANS
of RENDERING THEM MORE PROFITABLE, as well as an ACCOUNT of the
PROCESS of TREATING POOR ORES of COPPER, successfully used there.
By JOSEPH LEE THOMAS, Assoc.I.C.E.
London; MINING JOURNAL Office, 26, Fleet-street, E.C.

THE NEWCASTLE CHRONICLE AND NORTHERN
COUNTIES ADVERTISER. (ESTABLISHED 1764.)

Published every Saturday, price 2d., or quarterly 2s. 2d.
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER.
Published every morning. Price 1d.
Offices, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North
Shields; 195, High-street, Sunderland.

PROGRESSIVE MINES.

London: Printed by RICHARD MIDDLETON,¹ and published by HENRY ENGLISH (the proprietors), at their office, 36, FLEET STREET, where all communications are requested to be addressed.—August 17, 1867.